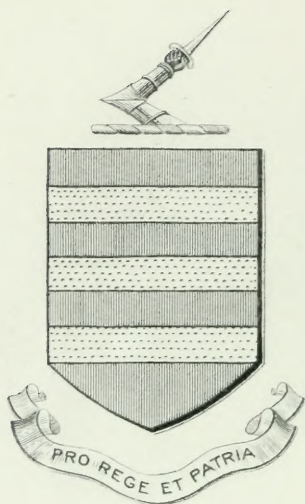



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SOME PRACTICAL INFERENCES FROM THE PATHOL-
OGY OF HIP DISEASE.*

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THE effect of the application of traction to a joint in a state of acute inflammation is eminently satisfactory. We have all experienced the pleasure of seeing a patient relieved from pain by the simple expedient of a weight and pulley. Traction thus applied in the treatment of hip disease has been a very common practice. The benevolent founder of the Institution for the Relief of the Ruptured and Crippled, our esteemed Fellow, Dr. Knight, writes that of the thirteen hundred patients suffering from hip disease admitted to that charity from 1863 to 1873, inclusive, more than one half had been previously treated by the use of the weight and pulley.† Not less prompt in the relief of pain is the use of apparatus especially designed for the application of extension and counter-extension. Our lamented Vice-President, Dr. John Watson, in a memorable discussion which took place in the Academy in 1861, narrated in these words an incident of his practice in the New York Hospital

* Read before the New York Academy of Medicine, June 1, 1882.

† "Orthopædia." By James Knight, M. D. New York, 1874, p. 263.

in 1840: "I remember the first case which I treated upon this plan. She was brought into the hospital suffering agonizing pain, scarcely allowing any one to touch her. I remember telling Dr. Kearney Rodgers that I intended to treat the patient upon a new plan. 'Well,' said he, 'let us see how it will work.' I placed her upon the straight apparatus as if she had a fracture of the thigh. I had hardly put on the counter-extension before the girl was entirely free from pain. It operated beautifully and instantly."*

A large proportion of the cases of hip disease occurring in this city for many years have doubtless been treated by some form of traction or extension and counter-extension. The relief from pain being recognized and gladly accepted, the question of the rationale of this form of treatment has been generally considered as fully answered by the statement that traction opposes the muscles which crowd the inflamed articular surfaces together. The muscles draw the femur toward the acetabulum, the apparatus draws, or seems to draw, the femur away from the acetabulum. Muscular contraction increases the pressure inflicted on the articular surfaces; the apparatus is said to lessen that pressure. It has thus, from clinical observation, come to be considered that one of the chief pathological facts of hip disease is a crowding together of the diseased articular surfaces by the reflex action of the muscles surrounding the joint.

Muscular contraction was recognized as a clinical feature of joint diseases by John Hunter. In his lectures delivered in 1787 he said: "This stiffness of the joint depends on the involuntary contraction of the muscles, and is in consequence of the muscles sympathizing with the joint."† It has been occasionally referred to by writers on hip disease since the time of Hunter, notably by MM. Guersant and Maisonneuve in 1844.‡ But it is only of comparatively late years that the action of the muscles has been promoted to a position of extreme prominence among the pathological factors of hip disease. The idea that muscular contraction menaces the tissues of an inflamed joint was advanced by the late Dr. Alden March, of Albany, in 1853,# and by Gustav Ross, a German lecturer, in the following year;|| but it failed to attract general attention on either side of the Atlantic before the discussion in the Academy above referred to.

* "Am. Med. Times," May 11, 1831, p. 310.

† "Principles of Surgery," Philadelphia, 1839, p. 284.

‡ "De la Coxalgie." Par J. G. Maisonneuve. Thèse de Paris, 1844, pp. 106, 107;

"Ann. de la chir. française et étrangère," xii, p. 467.

"Trans. of the Am. Med. Assoc.," 1853, p. 499.

|| "Deutsch. Klinik," Mar. 4, 1854, p. 98.

This view of the action of the muscles in hip disease has led to a more general recognition of reflex muscular action as a valuable diagnostic sign, but the therapeutic precept which implies the necessity of overcoming or counteracting muscular action seems to me to invite more critical scrutiny than it has yet received. The opinion of our honored Fellow, Dr. Lewis A. Sayre,* entertained also by Dr. Henry G. Davis,† that in some cases the primary lesion is an inflammation of the muscles, which leads to spasm and thus secondarily to ulceration of the articular cartilages, may be considered as the extreme development of the idea that muscular action is a controlling factor in hip disease.

The statement that muscular action promotes the morbid process found no place in the contributions made to the literature of hip disease by Falconer,‡ Crowther,§ Ford,|| Brodie, Wickham,^ or Liston.◇ It is wanting in the reports of Ducros↓ and Harris,↑ who, in 1835, the former in April and the latter in July, were the first to use extension and counter-extension in the treatment of hip disease. It is not found in the scholarly essay published in 1839 by our cherished Fellow, Dr. John G. Adams.‡ It is absent from the works of Maisonneuve, Bonnet, Gross,** and Hilton.

If the proposition that muscular contraction is a menace to the tissues in hip disease were demonstrable by scientific methods, it would be a waste of time to call attention to the fact that it had not been enunciated by accepted authorities. Let us inquire whether it is indeed a proposition securely based on pathological observation and logical inference. We will consider, first, that curious phenomenon called by M. Hennequin a "vicious circle," †† in which the destructive process in the hip joint promotes the contraction of the muscles, while the muscular contraction in turn ag-

* "Am. Med. Times," May 9, 1863, p. 219.

† "Conservative Surgery," New York, 1867, p. 86.

‡ "A Dissertation on Ischias." By William Falconer, M. D. London, pp. 55. (Library of the Surgeon-General's Office.)

§ "Practical Observations on the Disease of the Joints commonly called White Swelling." By Bryan Crowther, M. R. C. S. 2d ed., London, 1808, pp. 295. (Library of the Surgeon-General's Office.)

|| "Observations on Disease of the Hip Joint." Edward Ford. Second edition, London, 1810, p. 295.

^ "A Practical Treatise on Diseases of the Joints." By W. J. Wickham. Winchester, 1833.

◇ "Lancet," Mar. 26, Apr. 2, 9, 1836, Nov. 25, 1843.

↓ "Gaz. des. Hôp.," June 30, 1835, p. 311.

↑ "Med. Examiner," Philadelphia, Jan. 19, 1839, pp. 37-40.

‡ "N. Y. Jour. of Med. and Surg.," July, 1839, pp. 57-73.

** "N. Am. Med.-Chir. Rev.," July, 1858, pp. 658-698.

†† "Arch. Gén. de Méd.," Jan., 1869, pp. 80, 81.

gravates the destructive process. Our eminent Fellow, Dr. C. Fayette Taylor, refers to this point in the following words: "Hence there is established a self-continuing traumatic condition calculated to increase and prolong any diseased action once commenced in this joint: the more the disease the more the muscular contraction and rigidity to avoid motion, and the greater the pressure on and injury to the affected tissues." *

Dr. Sayre says: "This pain, moreover, is self-perpetuating, for the irritation of the diseased joint causes the muscular contractions, and these, in turn, aggravate the inflammation." †

Dr. Charles F. Stillman writes as follows: "Suppose, for instance, the articular surfaces, from some exciting cause, become irritated, and effusion takes place. By this effusion the individual fibers of the muscles are put still more upon the stretch, and, in consequence, the contractile force of the muscles is involuntarily excited to press the opposing articular surfaces still closer together. As a result of the increased irritation we have still further effusion, with its involuntary reflex muscular contractions (which fix the joint rigidly), and injury to the articular surfaces, and, finally, implication of surrounding tissues." ‡

Mr. Barwell refers to this difficulty in the following words: "You will tell me that I am arguing in a circle—that, having asserted the muscular spasm to be due to inflammation, it is not logical to prove the inflammation due to the spasm." Apparently startled by finding a condition which not only violates the proprieties of logic but also introduces among the processes of Nature a mechanical device comparable in its destructiveness only with the phenomena of malignant disease, he adds: "True, this is a circle, but it is 'Nature's' own and not mine." #

The authorities above quoted admit the existence of this "vicious circle," and argue thence the necessity of counteracting the muscles. M. Hennequin suggests that certain groups of muscles become contracted for the purpose of keeping the joint in such a position that the sounder portions of the articular surface may alone be exposed to pressure. This method of escaping from the difficulty is certainly ingenious. It is, however, strictly in accordance with the benignant character of the ordinary reparative efforts of Nature to doubt the existence of this unrelenting and ab-

* "On the Mechanical Treatment of Disease of the Hip Joint." By Charles Fayette Taylor, M. D. New York, 1873, pp. 13, 14.

† "Lectures on Orthopædic Surgery." By Lewis A. Sayre, M. D. New York, 1876, p. 244.

‡ "Med. Record," Dec. 4, 1880, p. 620.

"Lancet," Oct. 17, 1863.

horrent injury, and incitement to injury, between the parts involved in the morbid action, and, *pari passu*, to discredit the importance of muscular contraction as a factor in hip disease.

As the argument above outlined partakes, perhaps, too much of dialectics, let us view the pathology of the disease from another standpoint, where we can make use of the tangible facts of morbid anatomy. It is a curious fact, and one which has not received the attention which it deserves, that the tables of exsections of the hip for disease contain a large number of cases in which the acetabulum is reported as healthy. Such cases are not wanting in the voluminous table of Dr. Culbertson.* In Dr. Winne's table the condition of the acetabulum is mentioned in thirty-two cases, in two of which this part was healthy.† In Dr. Hodges's table of one hundred and eleven operations there were sixteen cases in which the acetabulum was not diseased.‡ In Dr. Good's one hundred and twelve cases there were fourteen such instances.§ Mr. Hancock writes: "Of eighty-one cases in which the fact is specially alluded to, I find that in eighteen, or rather more than one fifth, the acetabulum is expressly stated to have been healthy."|| As the acetabulum could hardly escape in the late stage in which exsection is usually performed, if pressure on the articular surfaces were a controlling element in the morbid process, these facts throw a dubious shadow, to say the least, over the comparative importance of muscular action among the pathological factors of hip disease.

Of the two portions of the skeleton which enter into the formation of the hip joint—the os innominatum and the femur—the latter is more frequently represented in morbid specimens, because its condition is more easily ascertained and described after death or exsection than that of the os innominatum. A review of the morbid anatomy of hip disease in its successive stages, which we will now enter upon, will, therefore, from necessity, be limited almost entirely to the appearances found in the femur. This limitation is not mischievous, however, because the pathology of pelvic hip disease is, without doubt, *mutatis mutandis*, identical with that of femoral hip disease.

Beginning, then, with the earliest incipency of hip disease, the question arises, Does the first morbid change take place in the articular surface, or centrally in the cancellated tissue of the bone?

* "Trans. of the Am. Med. Assoc.," 1876. Supplement, pp. 74-142.

† "Am. Jour. of the Med. Sci.," July, 1861, p. 35.

‡ "The Excision of Joints." By Richard M. Hodges, M. D. Boston, 1861, p. 118.

§ "De la Résection de l'Articulation Coxo-fémorale pour Carie." Par R. R. Good. Paris, 1869, p. 50.

|| "Lancet," Mar. 16, 1872, p. 305.

If the disease begins in the former, if the earliest lesion belongs to the articular cartilage, then it can the more readily be believed that the pressure attending reflex muscular contraction is an important element in the initiation of the morbid process. But there is very slight evidence—none physical that I am aware of—that hip disease begins in a lesion, traumatic or idiopathic, of the articular surfaces. That it commences otherwise has been very emphatically asserted by our eminent Fellow, Dr. V. P. Gibney, in these words, taken from an address delivered before the Kentucky State Medical Society: “Let me state my belief, with all the emphasis that I can command, that the hip disease with whose deforming stages we are too familiar never begins in the soft parts of the joint, but always as a central bone disease.”* This doctrine is, however, far from being new. It appeared in a modified form and hesitatingly expressed in these words from Mr. Ford’s preface: “I am inclined to believe that a disease of the bone itself, or its investing cartilage, is almost in every case the real cause of what is usually termed a white swelling of a joint.”† Rust, of Vienna, based this doctrine on clinical observation and post-mortem examinations, and in 1817 declared in the most formal and circumstantial manner that hip disease begins in an inflammation of the medullary tissue of the head of the femur and proceeds from within outward, from the center toward the periphery, involving secondarily the articular surfaces and the soft parts of the joint.‡ The teachings of Sir Benjamin Brodie have greatly modified the opinion of his own and more recent days on this question. Up to the very last edition of his remarkable “Treatise on Diseases of the Joints” he insisted on making a distinction between disease of the synovial membrane, disease of the articular cartilage, and scrofulous disease of the joint, beginning his account of the pathology of the latter with these words: “The morbid action seems to have its origin in the cancellous structure of the bones, which in the first instance is preternaturally vascular, with a less than usual proportion of the phosphate of lime in its composition, there being at the same time a deposit of fluid, apparently serum, in the cancelli. As the disease advances the cancelli are found to contain a yellow substance, which is sometimes collected in large masses resembling the tubercular deposits found in other parts of the body.”§ Mr. Syme, writing in 1832 on the subject of hip disease,

* “Medical Herald,” Louisville, Ky., June, 1880, p. 68. † *Op. cit.*, p. x.

‡ “Arthrokakologie,” etc. Johann Nepomuk Rust. Wien, 1817, pp. 18, 19. (Library of the Surgeon-General’s office.)

§ “Observations on Diseases of the Joints.” By Sir Benjamin Brodie. Fifth edition, London, 1850, pp. 107, 108.

gave his opinion as follows: "The disease may, then, be regarded as consisting primarily and essentially in chronic inflammation of the bones composing the joint."* Although the influence of Sir Benjamin Brodie is still seen in the fact that the systematic writers on surgery of the present day commonly hold the opinion that chronic joint disease may begin either in the synovial membrane, the articular cartilage, or the bony tissue, yet there are authorities who hold, with Dr. Gibney, that hip disease as a rule begins at a point in the bony tissue remote from the articular cartilage. Mr. Bryant writes: "It may without fear be asserted that at least two thirds of the cases of joint disease which are found in children are due to inflammatory affection of the epiphyses."† Mr. Coote writes: "Although we can not state with positive certainty the precise sequence of morbid changes, yet we have reason to believe that, in the first place, inflammation of chronic or subacute character commences in the cancellous structure of the head of the bone, and that the synovial membrane and the ligamentum teres are affected secondarily."‡ Our eminent Fellow, Dr. Newton M. Shaffer, says: "Joint disease may be either acute or chronic; when acute, it usually affects the synovial membrane; when chronic, I believe it most frequently has its origin, especially in the hip joint, in the osseous structure (epiphysis)."§ Mr. Barwell writes: "To my mind there is no doubt whatever that nearly all cases of chronic infantile hip joint disease originate in the bone."||

Furthermore, post-mortem appearances have been described which support this view of the pathology of the incipency of hip disease. In 1833 a case was related by Fricke, of Hamburg, of which the following is a condensed history: A boy, four years of age, was affected with disease of the right hip. At the time of his admission to the hospital there were present a flattening of the nates and a want of symmetry in the length of the lower limbs. There had been lameness and pain for four months, when the patient died of tubercular meningitis. Longitudinal section was made of the upper part of each femur. Fig. 1 (the affected) and Fig. 2 (the sound femur) are copied from colored lithographs which illustrate Fricke's report. The synovial membrane was found everywhere red and congested. The articular cartilage was healthy in all its surfaces. The spongy tissue of the entire upper portion of

* "The Principles of Surgery." By James Syme. Philadelphia, 1832, pp. 349, 350.

† "The Surgical Diseases of Children." By Thomas Bryant. London, 1863, pp. 107, 108.

‡ "On Joint Diseases." By Holmes Coote, F. R. C. S. London, 1867, p. 119.

§ "Am. Clin. Lect.," vol. iii, No. 6, 1877, p. 152.

|| "A Treatise on Diseases of the Joints." By Richard Barwell. Second edition, London, 1881, p. 412.

the femur was much redder and more vascular than that of the unaffected femur. In the interior of the neck was seen a firm yellow-



FIG. 1.



FIG. 2.

ish or grayish-white mass, occupying the greater part of the medullary portion of the neck of the femur and taking the place of the spongy tissue. At its upper portion it was retained in contact with the compact layer of the neck of the femur, but so loosely that a probe easily passed between. At its lower part the mass was firmly adherent to the spongy tissue. The layer of the epiphysal cartilage, which had a considerable thickness in the sound femur, was reduced in the diseased specimen to a very narrow line bounding the upper side of the mass.* A similar specimen is represented in Fig. 3. It is described by Volkmann as follows: "A cavity in the neck of the femur, immediately under the epiphysal cartilage, lined with a smooth tuberculous membrane, and filled with cheesy matter. A large abscess between the adductor muscles. Exsection. Recovery."†

M. Lannelongue has related a case which furnished a similar specimen. The following is a condensed summary of this recent and most important contribution to the pathology of hip disease: "A girl three and a half years of age had been affected with disease of the right hip for two and a half months. The limb was atrophied. The femur was motionless in the flexed and abducted position. The

* "Ann. der chir. Abth. des allg. Krankenhauses in Hamburg," Bd. 2, 1833, pp. 290-300, Plate iv, Figs. 2 and 3. (Library of the Surgeon-General's office.)

† "Samml. klin. Vortr.," Nos. 168, 169, 1879, p. 1406, Fig. 3.

classical features of hip disease were present in the history and condition of the child. Two and a half months after coming under



FIG. 3.

observation, and five months after the date of the earliest symptoms, the patient died of diphtheria. At the autopsy the joint was found to be free from effused fluid. The synovial membrane presented in certain places a reddish, thickened, and fungous appearance. This condition was found chiefly at the lower and posterior part of the synovial membrane. It appeared to start from the neck of the femur near the femoral head. At the same time the ligamentum teres was red, very vascular, and also slightly fungous. The surfaces of the head of the femur and the acetabulum presented no change. The articular cartilages retained their normal condition, excepting that in some places the cartilage of the head of the femur was thinned and less elastic. On section of the head and neck of the femur the center of ossification of the head was found to be reddened, and its areolæ appeared large in comparison with those of the unaffected side. But the prominent feature of the specimen was a cavity of the size of a small bean, lined with a thin membrane and filled with a cheesy substance, situated immediately below the epiphysal cartilage. Surrounding the cavity the bony tissue presented a red zone. In some places fungosities started from the membrane which lined the cavity and reached the surface of the bone, where they became continuous with the thickened synovial membrane. The spongy tissue of the neck of the femur below the cavity was reddened." *

In these cases the articular surfaces, directly exposed to pressure, are free from erosion or ulceration, while the underlying spongy tissue of the bone is deeply implicated, and yet reflex muscular contraction is one of the earliest recognizable symptoms of hip disease. So far as the incipency of the disease is concerned, the re-

* "Bull. et Mém. de la Soc. de Chir. de Paris," Feb. 5, 1881, vol. vii, No. 1, pp. 9-11.

corded facts of pathology fail, therefore, to sustain the importance of muscular action as an element of the morbid process. The number of observations which throw light on this very early stage is, from the nature of the case, limited, but their bearing on the question under consideration is emphasized by the entire absence in the literature of the subject, so far as I have explored it, of specimens which disclose erosion or ulceration on the surface of the bone or cartilage coincident with a sound condition of the cancellated tissue.

Leaving this early state of central osteitis, let us briefly review the next stage of the disease, in which circumscribed areas of ulceration appear in the bony or cartilaginous surfaces which assist in forming the inner aspect of the cavity of the joint. In this stage of ulceration, before denudation has become wide-spread, are there any proofs of the effects of muscular contraction? If the pressure attending muscular action is a controlling factor in the morbid process, then the first ulcerations or erosions ought to appear in the articular cartilage, which is directly exposed to pressure, and not on the surface of the neck of the femur, which lies outside of the direct influence of pressure. It is found, however, almost invariably in this stage, that the neck of the femur is deeply ulcerated, while the articular cartilage covering the head of the femur is free from evidences of disease. This condition is found in the following cases from the works of Mr. Holmes and Mr. Barwell, and from the clinical service of the late Dr. H. Lenox Hodge, of Philadelphia. In Mr. Holmes's case the specimen represented in Fig. 4 was re-



FIG. 4.

moved by exsection from a girl eleven years of age, who had suffered from hip disease of two years' duration. The specimen is described as follows:

"The disease is seen to be situated wholly in the neck of the femur, where there is a deep carious cavity with some necrosed bone at the bottom; but the articular surface was quite healthy. The joint had been full of pus, and the ligamentum teres was gone."*

In Mr. Barwell's case the specimen represented in Fig. 5 was

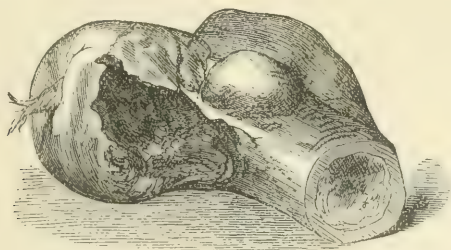


FIG. 5.

obtained from the body of a boy five years of age, who died of tubercular meningitis about two months after the appearance of symptoms of hip disease. The specimen is described as follows:

"What remains of the round ligament can barely be seen; it was very thin, soft, and shreddy; red, and infiltrated with a blood-stained serum. The epiphysal and diaphysal head of the bone, with a portion of the neck, was at its lower part quite carious; the excavation shown in the figure was, when fresh, filled up with thick pus, mingled with bony detritus and soft granulation tissue. The cartilage was intact, though thinned, except around the carious cavity, where it had in great part disappeared; it was detached from the bone for a considerable distance round the margins of that excavation."†

Dr. Hodge's specimen, removed post mortem from the body of a girl fifteen years of age, is described as follows:

"The neck of the femur is ulcerated through, and but little remained of the head, while the articular cartilage remained sound and was attached to the neck by the periosteum on the under surface. The articular cartilage on the acetabulum, and even the round ligament, was not diseased."‡

These cases, from the stage of ulceration, illustrate the presence of disease in the surfaces which are free from pressure coincidently with a normal condition of the articular surfaces, which are directly

* "The Surgical Treatment of the Diseases of Infancy and Childhood." By T. Holmes. Second edition, London, 1869, pp. 458, 459, Fig. 76.

† *Op. cit.*, pp. 412, 413.

‡ "Phila. Med. Times," Mar. 31, 1877, p. 305.

exposed to pressure, and their bearing on the argument is emphasized by the absence of specimens which disclose evidences of erosion of the articular cartilage coincident with a sound condition of the surface of the neck of the femur.

And when, as happens in the further advance of this stage of ulceration, the articular cartilage begins to give way, the lesions found in it are insignificant in their extent and gravity when compared with those of the underlying tissue. Cases in illustration of this are not wanting. Our eminent Fellow, Dr. Charles T. Poore, has reported a most interesting case of fatal double hip disease occurring in a girl five years of age, which illustrated on the right side a pelvic and on the left a femoral coxalgia. The following are the pertinent points in the report of this case:

The left joint contained no pus; the ligamentum teres was perfectly healthy; the cartilage on the head of the femur was white, glistening, and apparently healthy, except at a single point; the acetabulum showed no evidence of disease. There was found a carious spot, about the size of a split pea, but of irregular shape, on the upper surface of the head, at a point just below the line of the epiphysal cartilage; the articular cartilage at this point was destroyed over a small extent; at this carious point there had been a circumscribed osteitis, or rather osteomyelitis, extending inward and upward from the carious point to a point just up to the epiphysal cartilage; there were other similar but smaller points of the same inflammatory process scattered throughout the head. The disease here was a central osteitis, which had involved the external shell of the bone of the head at one point only, and, had the patient lived, the joint itself would in all probability have been in time involved secondarily.*

Dr. Gibney has reported a case in which the articular cartilage had evidently suffered much less than the subjacent bony tissue. The patient was a boy, eight years of age, who died of intercurrent disease several years after the first occurrence of hip disease. The appearances, represented in Figs. 6 and 7, are described as follows:

"The right hip joint being opened, the capsular ligament is found intact; there is no fluid within the cavity, and suction force is normal, while the ligamentum teres is easily detached. Head of bone presents a dirty-yellowish aspect, with a groove extending from ligamentum teres toward trochanter minor, intersecting a similar groove about the insertion of capsular ligament. In this groove is new connective tissue. At one point the cartilage is completely eroded; head flattened. On vertical section there appear

* "Med. Record," Nov. 22, 1879, pp. 484, 485.

three yellowish spots, two above and one below the line of epiphyseal union, which line of union is carried up one inch; cartilage is one half the normal thickness, and this, as well as the bone underlying, is, in the field of the microscope, seen to be in the process of fatty degeneration. . . . The accompanying cuts show very strikingly the pathological changes, with the exception of the coloring. The whitish spots in the head and neck in the original sketch, as made by the artist at the post-mortem, are yellowish, showing the fatty metamorphosis to perfection." Dr. Gibney adds that the case "illustrates the pathology, viz., a central osteitis extending to the periphery, and ultimately destroying the joint structures." *



FIG. 6.



FIG. 7.

In both of these cases the lesions of the articular cartilage are less important than those of the underlying tissue. So far as they go, these cases of Dr. Gibney and Dr. Poore must therefore be considered as depreciating the importance of muscular contraction, and their bearing on this question is emphasized by the entire absence, so far as I am aware, of specimens in which the lesions of the articular surface are found on longitudinal section to transcend in importance those of the underlying tissue. Indeed, I know of but one specimen taken from the stage of ulceration in which a lesion of the articular surface has been ascribed to the influence of press-

* "Am. Jour. of the Med. Sci.," Oct., 1878, pp. 390-392, Figs. 1 and 2.

ure, and in this case, the sixty-eighth of Mr. Barwell, the lesion believed by him to be produced by pressure is of less extent and depth than one which had appeared in the lower part of the neck of the femur, and which is expressly referred to as the result of osteitis.*

The fact that the traces of morbid action decrease in severity as we pass from the center toward the surface of the bone leads to the opinion that the morbid action proceeds from within outward, and this idea is further sustained by the not infrequent separation, or, as it is termed by Mr. Barwell, the shedding, of the articular cartilage. Large cap-like portions of cartilage are thus loosened and detached, a beautiful specimen of which is found in Dr. Poore's collection. Mr. Annandale and Mr. Barwell have published cuts of this interesting feature of morbid anatomy, which is also illustrated in Volkmann's lecture † by a colored lithograph, of which Fig. 8 is

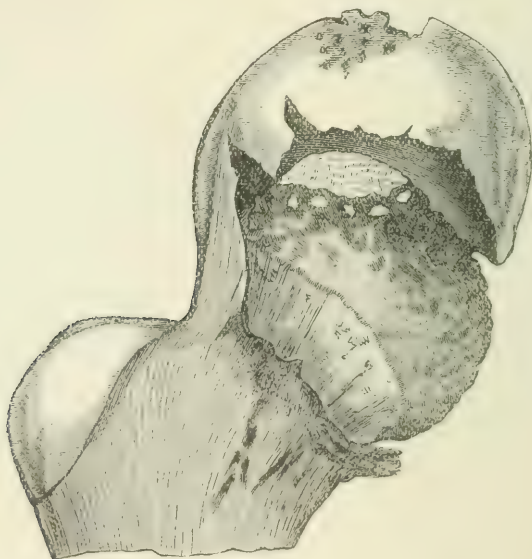


FIG. 8.

a copy. If the destructive process is from the center toward the periphery, it can hardly be considered as the result of pressure on the articular surface, which would, after first attacking the cartilage, proceed inward by excavation.

Although the occurrence of ulceration in the bony or cartilaginous surfaces in hip disease is thus seen to be almost entirely independent of the presence or absence of pressure, it is not to be denied

* *Op. cit.*, pp. 413, 414, foot-note.

† *Op. cit.*, Plate I'.

that there are clear evidences of the effects of pressure in the altered shape of the head and neck of the femur. This is seen in Figs. 1, 3, and 6. In each of these cases the alteration in shape is at the expense of the cancellated bone and the epiphysal cartilage rather than of the articular cartilage. Although this alteration in the shape of the upper extremity of the femur is one cause of the ultimate shortening of the limb, it can hardly be considered as a primary or very important element in the pathology, and, moreover, it is as readily referable to the pressure and concussion incident to standing and walking as to the pressure resulting from muscular contraction.

Having thus explored, without success, the initial stage of central osteitis, and the intermediate stage of ulceration, let us examine the final stage of general denudation for evidences of the pernicious effects of muscular action. The time has arrived when, in the words of Mr. Ford, "all traces of the original disease are lost in that mass of matter which surrounds the joint, when bone, ligament, and cartilage are confounded together in one general destruction." * In this stage the signs of disease are obviously never limited to the parts directly exposed to pressure, for all the surfaces of the upper extremity of the femur, including the outer face of the great trochanter and the lower surface of the neck, and sometimes even a portion of the shaft, are thoroughly diseased. It occasionally happens that the upper part of the head of the femur—the part most directly exposed to pressure—is less affected than any other portion. This is beautifully illustrated in the case reported by Dr. Sayre, in which the head, neck, and four inches of the shaft were removed from a boy fourteen years of age. The specimen represented in Fig. 9† is thoroughly diseased, and yet there is a considerable area at the summit of the head which appears to represent the compact bony layer entirely unaffected. If the action of the muscles is productive of mischief in this stage of hip disease, the unremitting and firm pressure which is thought to accompany reflex muscular action ought to produce effects much graver than those which are found. We know how readily the healthy bony tissue of the vertebræ gives way before the gentle impact of an aortic aneurism. But, in this stage of hip disease, the bony tissue, far from being healthy, is unduly vascular and fragile. The diseased bone is so soft that it has been proposed to use the exploring needle in those cases in which the integrity of the shaft of the femur is suspected. Furthermore, it is said that the force of the contracting muscles is such as to require for its counteraction a tractile energy

* *Op. cit.*, p. x.

† *Op. cit.*, p. 308, Fig. 189.

represented by the weight of many pounds. If the femur were, in fact, propelled by such a force, instead of the simple recession of



FIG. 9.

the upper edge of the acetabulum and the occasional perforation of its floor, we should have in every case, and soon after the accession of the disease, an abrupt invasion of the pelvic cavity by the decapitated upper extremity of the femur.

We have thus, and all too hastily, reviewed the pathology of hip disease in its successive stages. We have declined whatever assistance might have been obtained from a consideration of the diseases of the other joints. We have kept out of view the fact that the specimens that have been considered represent a variety of forms of hip disease; indeed, it does not seem possible in the present state of our knowledge to distinguish and classify, on the firm basis of post-mortem inspection, the varieties which undoubtedly exist. A clearing up of doubtful points in pathology has certainly not been the object of the present study, which has been simply a re-examination of the morbid anatomy of hip disease, with the sole object of ascertaining what evidences, if any, exist of the pernicious effects of the pressure attending muscular action. We have failed to find such evidences, and are therefore compelled to discredit the practice of seeking to counteract or overcome the muscles surrounding the joint. It does not follow, how-

ever, that treatment by traction is in the slightest degree depreciated. Aside from the fact that we are compelled, empirically, by reason of its anodyne quality, to use traction, there is ample rational ground for its use. Traction, however applied, is unavoidably accompanied by fixation. The most efficient apparatus for the application of traction is, at the same time, the most efficient means known to surgery for the solution of that difficult problem, the immobilization of the hip joint; and, finally, immobilization is indicated by every feature of the pathology as revealed in morbid specimens.

A CASE OF OBSTRUCTION OF THE ILEUM BY A GALL-STONE.*

By WILLIAM H. DRAPER, M. D.

THE patient was a clergyman in his 68th year, of temperate habits and without hereditary tendencies to gout or any other constitutional disease. Although delicate in his youth, he had for many years enjoyed excellent health, and was distinguished for great physical as well as mental vigor.

During the past six months he had shown some signs of failing energy, and had suffered more or less from indigestion; but he had not lost flesh, nor shown any sign of developing disease.

I was called to see him on the 21st of January, and found him in bed complaining chiefly of abdominal discomfort. He had some nausea, and had vomited. He had for several days previous been somewhat constipated and had taken several doses of cathartic medicine, which had produced only trifling effect. He had no fever, and did not complain of pain. There was no abdominal tenderness even on deep pressure, and no notable distension of the stomach or bowels. Very careful palpation and percussion revealed what I thought to be an unusual degree of resistance and an increased area of dullness in the epigastric region. With the idea that this might indicate a faecal impaction, I ordered ten grains of calomel, to be followed by bitter water, and gave at the same time potassium bromide in Vichy water, to allay nausea and procure repose.

On the following morning I found that the patient had passed a most uncomfortable night, suffering repeated attacks of vomiting and hiccough. The bowels had not moved until after an enema, and then only passed the contents of the rectum. There was no change noted in the physical signs, which were supposed to indicate

* Read before the New York Medical and Surgical Society, February 25, 1882.

a faecal tumor. The singultus and vomiting continued during the day. At my evening visit my attention was attracted by the feculent odor of the gas eructated from the stomach, and by the same odor in the matters vomited. The appearance of the vomited matter was not stercoraceous; it was brownish in color and fluid in consistence. There was still no complaint of pain or tenderness, and no meteorism. The urine was very scanty, not more than six ounces having been passed in the previous twenty-four hours, and a passage of the catheter showed the bladder to be nearly empty.

I stated to the patient my fears of the existence of an obstruction in the small intestines, and requested surgical counsel. Dr. Sands saw the patient with me the same evening, and coincided in the opinion that the acute history of the symptoms, the absence of distension, and the marked diminution in the urinary secretion, indicated the existence of an obstruction high up in the small intestine. It was decided not to make any further attempt to force the obstruction by medicine, and to defer the consideration of operative interference until the following day.

On the third day the condition of the patient was practically unchanged. The singultus was less distressing, being controlled by hypodermic injections of morphia, and the vomiting recurring at less frequent intervals. The eructations of gas and the vomited matter still retained the feculent odor. There was no fever, no complaint of pain, no tenderness, and no meteorism.

Dr. Van Buren saw the patient with Dr. Sands and myself in the afternoon. Operative interference was fully discussed, but it was decided that, in view of the age of the patient and the impossibility of determining the nature of the obstruction, it was expedient to await further developments and continue the palliative treatment. An injection of five pints of warm water was given in the knee and elbow position; it distended the colon, but passed away in the course of half an hour with only slight change of color, and bringing no faecal matter.

On the fourth day the symptoms remained unchanged. The pulse and temperature were normal, and there was still no complaint of pain, tenderness, or distension. The physical signs observed on the second day were still present. The singultus and vomiting were less troublesome, both symptoms being controlled by the morphine, which was now given by the stomach, the hypodermic injections causing considerable ecchymosis and soreness. The urine was increased in quantity, probably as a consequence of the absorption of some of the enema which had remained in the colon. The vomited matters were still feculent in odor, and for the first time

appeared sanguinolent. Microscopic examination revealed a few blood corpuscles and some suspicious epithelial structures with large nuclei and shining nucleoli. A consultation with the surgeons repeated the decision of the previous day, to continue the expectant treatment.

On the fifth day the patient's strength continued apparently unimpaired, though the pulse was somewhat accelerated; the hic-cough now gave but little annoyance, and the vomiting occurred at longer intervals. Dr. Weir replaced Dr. Van Buren at the surgical consultation, and was inclined to the opinion that the obstruction might be in the large intestine, on account chiefly of the development of some dullness along the course of the ascending colon.

Operative interference, however, was still not deemed justifiable, the age of the patient, the condition of the blood-vessels, as indicated by the ecchymosis produced by the hypodermic injections, offering, as it was believed, little encouragement for the success of an operation which might involve the necessity of enterotomy as well as laparotomy. A second enema, of five pints, was given, with the same negative result which followed the first.

On the sixth day there were manifest signs of failing strength; the pulse was more frequent and feeble, and the vomiting and singultus, though less troublesome, still persisted. The feculent odor of the vomited matter was, if anything, more marked, but it remained fluid in consistence, and of a brownish color. The question of surgical interference was again discussed, with the same conclusion.

On the seventh day the vomiting became more frequent and distressing, and, though the patient moved from time to time from his bed to his chair, and even walked about his room, it was evident that his strength was progressively failing. The pulse had increased to 120, though there was still no fever, and no abdominal pain or tenderness. The tympanites was not extreme, but had notably increased within twenty-four hours.

On the eighth day it was determined to explore the abdominal cavity by Simon's method. The patient was etherized, and Dr. Sands introduced his hand into the rectum, but was prevented from passing beyond the meso-rectum through fear of causing rupture. He satisfied himself, however, that the obstruction was not in the cæcum, and probably not in the ascending colon. Preparation had been made for laparotomy, colotomy or enterotomy, should either of these operations be justified by the disclosures made by the explorative procedure. It was decided, however, that, in the absence

of definite knowledge of the nature and seat of the obstruction, further surgical interference was not justifiable in the present condition of the patient.

The patient rallied well from the ether, and on the morning of the ninth day did not appear to be the worse for the operation or the etherization. The idea of surgical relief having been abandoned, it was decided to give the patient the chance offered of removing the obstruction by a drastic purge. Accordingly, six minims of croton-oil were ordered, in six pills. Three were given at once, and the remaining three were administered singly, at intervals of two hours, after the first dose. No effect followed except an increase in the frequency and severity of the emesis.

On the evening of the ninth day the patient began to sink rapidly, and, though rallied from time to time by hypodermic injections of brandy, passed into a state of coma on the morning of the tenth day, and died at 11 A. M., January 30th.

AUTOPSY, THIRTY HOURS AFTER DEATH, BY DR. GEORGE L. PEABODY.

Inspection.—Body well nourished. Rigor mortis well marked. No œdema. There is a superficial subcutaneous discoloration over an area about three inches in diameter, to the right of the umbilicus and just below it, whose appearance is that of a recent bruise.

Head.—Not examined.

Peritonæum.—On opening the abdomen the coils of small intestine are the only abdominal contents visible except the lower border of the left lobe of the liver, the transverse colon, which is quite contracted, and the omentum. These coils of small intestine are very much distended by gas and fluid; they are dark in color, and their peritoneal surfaces adjacent to their lines of contact are distinctly congested. They are nowhere softened or gangrenous. The stomach is pushed up into the left hypochondrium and concealed behind the ribs. There is no fluid in the peritonæum, and no evidence of peritonitis. On manipulating the abdominal viscera there is discovered in the ileum, at a point eight feet above the cæcum, a hard, firm mass, of an ovoid shape, and considerably smaller than a hen's egg, lying with its long axis in the axis of the intestine, and completely grasped by the intestine. This is situated about an inch below the umbilicus and in the median line. At this point the intestine makes an acute angle of about 30°; and the part of the intestine inclosing this mass forms one of the sides of this angle, the mass being at the apex of the angle. All that part of the intestine which is above the mass is enormously distended (that being the part first observed on opening the abdominal cavity), and it is found that the remaining eight feet of ileum below the mass is tightly contracted, so that it will not admit anything larger than a lead-pencil without being stretched. The sides of this acute angle in the ileum at the site of the foreign body lie beneath a mass of distended jejunum, and in such a position that the distended side of the angle lies superficial to the other (the body being on its back). The mass is freely movable in the dilated intestine, but can not be forced into the contracted portion without violence. Both internal abdominal rings are closed and normal.

Diaphragm.—This is situated at the level of the lower border of the fourth rib on each side.

Pleura.—There are old adhesions everywhere on the left side. There are no adhesions on the right side. There is no fluid on either side.

Heart.—There is some hypertrophy of the left ventricle. The other cavities are normal. The valves are competent. There is atheroma of the mitral. The muscular tissue is apparently normal. There is much fluid blood in the great vessels.

The *aorta* is atheromatous.

The *lungs* are both intensely congested and œdematous.

The *spleen* is small, but structurally normal.

Kidneys.—The fat capsules are very thick. The fibrous capsules are adherent. The surfaces are granular. The cortex of each contains a few small cysts. In thickness it is much diminished; its markings are not distinct. There is an abundance of fat in many of the straight tubes near the papillæ.

Stomach.—Its mucous membrane is congested and thickened, and the organ is contracted.

Intestines and Gall-Bladder.—The omentum and duodenum are firmly adherent to the lower surface of the gall-bladder, being united to it and to each other by adhesions of fully formed connective tissue. There is no evidence of recent inflammation. The walls of the gall-bladder are much thickened. It contains only mucus. One inch below the pylorus is a circular opening through all the coats of the duodenum and adherent gall-bladder, whose diameter is a trifle more than half an inch, and whose edges are elastic. About the edges of this opening in the duodenum the mucous coat is separated from the muscular to an extent nowhere exceeding half an inch, and in some places much less than that. The edges of the opening are smooth, and, except for the separation of these intestinal coats, apparently healed. The common bile duct enters the intestine in its usual situation, and is pervious. The hepatic duct and the cystic duct are also pervious. The opening in the gall-bladder is situated at its neck.

The ileum below the site of the obstruction is found merely contracted and empty, without lesion. It is readily distended by the finger. The foreign body is found to be a gall-stone, ovoid in shape, whose long diameter is $1\frac{1}{2}$ inch and whose short diameter is $1\frac{1}{8}$ inch. Its surface is not rough, except at its lower extremity, where there is a slight depression whose base is roughened. There is a very thin layer of inspissated intestinal contents adherent to the calculus. The gut surrounding it is not inflamed. The weight of the calculus is 19 grammes.

Liver.—The liver contains an enormous amount of fat, which seems to be generally distributed. The thickening of the gall-bladder seems to affect all of its coats.

Microscopic Examination.

Heart.—Muscular tissue contains a small amount of fat, nowhere enough to obscure its transverse striæ, however.

Liver.—The fat is very abundant, only a small amount of liver tissue being left at the centers of the acini. In this liver tissue is an accumulation of bile pigment. There is a slight increase in the connective tissue of the organ.

Kidneys.—There are many completely atrophied Malpighian tufts—i. e., tufts whose only remains are little balls of connective tissue. There are many others which are only partially atrophied, Bowman's capsules being much thickened.

The walls of the blood-vessels are not materially thickened. The epithelium of many of the convoluted tubes is very granular. In the pyramids many of the collecting tubes near the papillæ contain much fat, their epithelial cells in this situation being wholly destroyed. Many of the tubes of the pyramids contain hyaline casts, as do also some of the tubes of the medullary rays in the cortex.

THE BIRTH OF AN ELEPHANT.*

By GUSTAVUS E. SUSSDORFF, M. D.

AN event so novel as the birth of an elephant in this country naturally attracts considerable notice, and excites great interest in the minds of scientists, as well as of the people generally. The opportunities for observing the animal in labor have been very limited, but few elephants having been born in a state of captivity; in fact, I believe almost the only cases of the kind so far known have occurred in the United States, the first one having been born in Philadelphia, out of "Hebe," in 1880, and the second in Bridgeport, Connecticut, in 1882, out of "Queen."

I am sorry I was unable to be present at the accouchement of the elephant "Queen" last February, but I have fortunately come into possession of some interesting facts concerning that event through my friend, Mr. H. H. Cross, who was present and assisted in the delivery, and who has had much experience with these animals, both wild and in a state of captivity. The same gentleman secured the placenta and foetal membranes at the time, which he has kindly loaned to me. He has also made several drawings of the elephant during and after labor.

I come before you, therefore, for the purpose of relating these facts, and to offer for your inspection what remains of the fully developed placenta and foetal membranes. I am sorry to say the specimen is not perfect, as part of it was much mutilated at delivery.

Respecting the period of gestation in the elephant, Owen, in his "Comparative Anatomy and Physiology of Vertebrates," says: "A male and female Indian elephant paired December 18, 1863, and at other times up to January 8, 1864, when they were kept apart. For twelve months there was no conspicuous increase of the abdomen, but after that period it was obvious to close inspection on the left side; then the mammary glands enlarged, with slight occasional oozing of milk, and on August 3, 1865, the young

* Read before the New York Medical and Surgical Society, May 27, 1882.

was born. It stood 2 feet 10 inches high, and weighed 175 pounds. The period of gestation, reckoned from the date of the first coitus, was, therefore, 593 days."

The following is the history of the elephant "Queen's" case: On June 15, 1880, she successfully paired with the male elephant "Chief," at Lowell, Massachusetts. Several attempts had been made on June 11th at Boston, and once afterward at Dover, New Hampshire, but were unsuccessful. Computing the time, therefore, from June 15, 1880, to February 2, 1882, the date of delivery, we find the period of gestation to have been 597 days—a difference of four days from Owen's case.

In this case there was no noticeable enlargement of the abdomen until it suddenly became quite prominent the day before labor began. This enlargement did not subside with the expulsion of the foetus and after-birth, but continued four days longer. During the latter months the mammæ became swollen, and soon filled with serous milk. These were the only signs of pregnancy to be seen.

The labor began at 3 p. m., February 2d. At this time the mammæ were greatly distended with milk, which came away continuously in drops. The vagina now began to drop down and swell. In a short time thick mucus began to come from the vagina in long ropy strings, and almost poured out just before delivery. (This statement that it was mucus is doubtless correct, as the sequel will show.) From 3 until 8 o'clock "Queen" was evidently uneasy, as she constantly moved her body from side to side, but did not seem to suffer *pain*, and quietly munched some hay up to the very moment of delivery. At 8.10 the young elephant was born, the head presenting, completely enveloped by the unbroken membranes. The head and part of the body rested between the hind-legs of the mother, and touched the ground (see Fig. 1). Without waiting a moment, the mother ruptured the membranes with her two hind-feet, when the young one rolled out, on its back. The membranes were no sooner liberated than they quickly returned into the vagina. The umbilical cord had not been seen at all, having probably been torn away during the descent of the foetus.

The mother now quickly turned to the young, and, on seeing it, began to roar and bellow furiously, which she continued for ten minutes. As soon as she saw the baby she also at once placed one fore-foot on it and rolled it several times, as one does a lemon under the palm of the hand, the bellowing and roaring continuing.

In a moment or two more she placed her abdomen upon a short post in the ground, to which she was chained, standing almost upon

her head, and grasping the post with her trunk, thus forcing the abdomen with great power against the post. Fig. 2 shows the position assumed far better than words can do. "Queen" remained

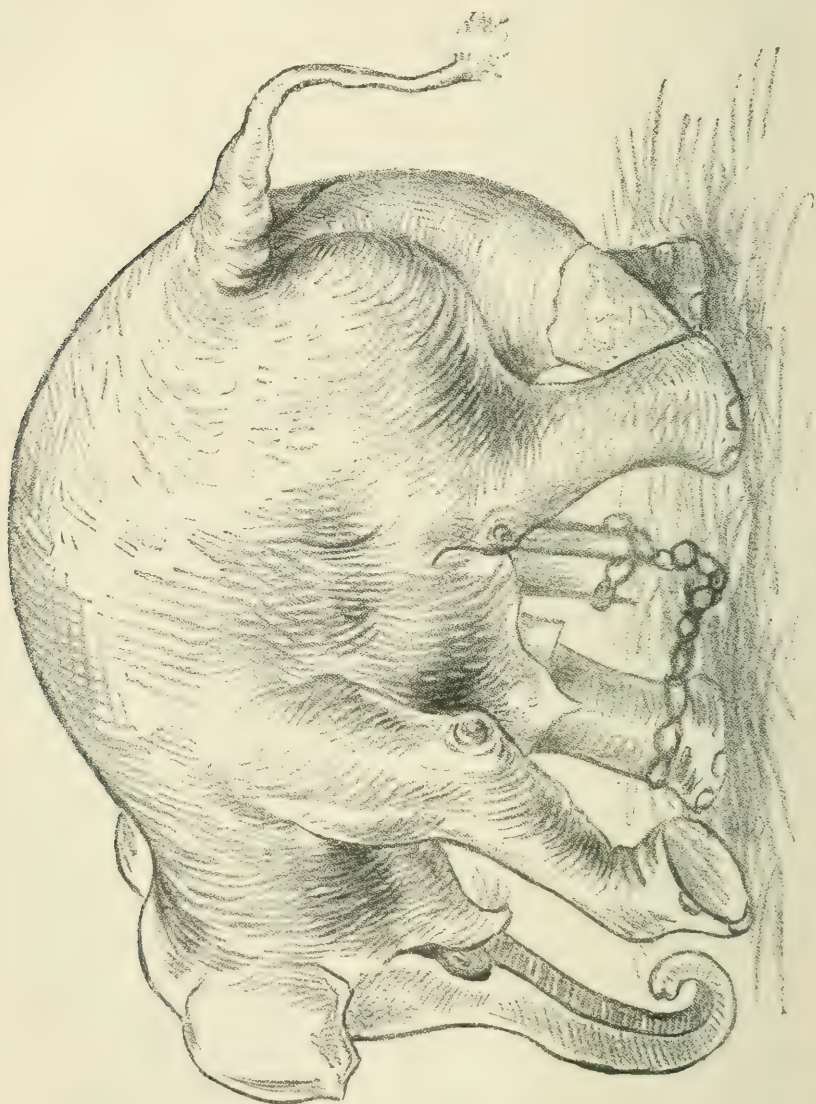


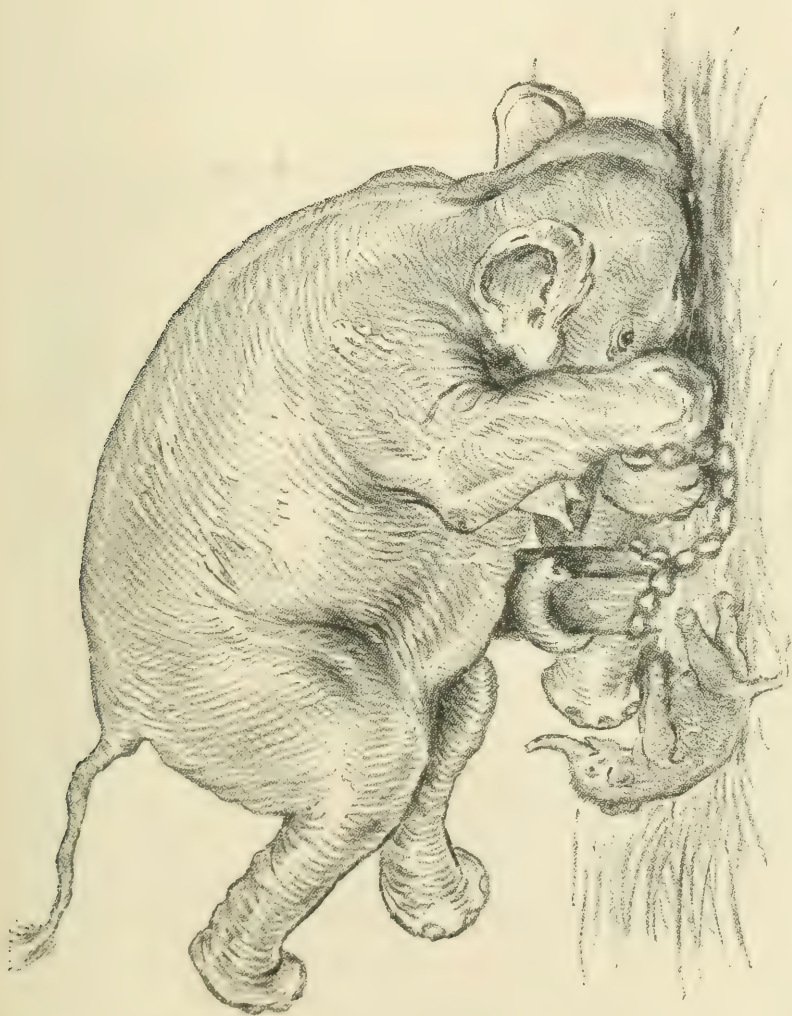
FIG. 1.

in that position for about ten minutes; then became quiet, and, while playing with her young, took some food.

Nothing indicative of after-pains could be recognized after this, and in one hour and thirty minutes the placenta was expelled. With it there came about two quarts of clotted blood. There was

no hæmorrhage either from the uterus or from the umbilicus of the calf.

The duration of labor was five hours and ten minutes. The calf, a female, weighed 245 pounds, and stood just 3 feet high. It began nursing one hour and forty minutes after birth. It had two middle upper teeth.



The umbilical cord entered the abdomen about three inches anterior to the vagina, and had been detached very close to the abdomen, as none was visible at that point, the canal being open and large enough to admit a good-sized finger for half an inch.

There are several very interesting and instructive points in this history. First, the period of gestation is evidently not affected by change of climate and captivity, lasting about nineteen and a half months. The time of labor is short, and evidently there is not much pain. The sagacity of the animal is remarkable, as shown by the manner in which she ruptured the membranes, the means she took to excite respiration by rolling the young, and, finally, her effort to express the placenta from the uterus.

Leaving this part of the subject, I will endeavor to describe the placenta and foetal membranes. In doing so I shall follow, to a great extent, the description of Owen, who was enabled to study this organ in a perfect condition, though at the middle period of gestation, whereby I may perhaps be able to point out the relation of that part which has been destroyed in this specimen to the other parts remaining uninjured.

The chorion of the elephant forms a transversely oblique sac, and, in the specimen we have here, must have measured in its long diameter, before the membranes were so much torn, at least five feet, as the remaining half, which is perfect, measures 31 inches, and the short diameter measures about 3 feet 4 inches. At the center the chorion is surrounded by the placenta, which, instead of being a continuous band, as it has been described, is in this instance composed of five parts, each more or less separated from the other, some at a distance of half an inch, and others an inch or more. The middle one is placed opposite to the point where the umbilical vessels are attached. Here, as I will show you, there is a considerable space on each side, having no connection with the others, except by the placental blood-vessels and membranes.

The circumference of the placenta around the rough portion is about 4 feet $3\frac{1}{2}$ inches, and in breadth it is fully 6 or 7 inches, while in thickness it is $2\frac{1}{2}$ to 3 inches. "It presents the same spongy texture as does the annular placenta of the carnivora, but the laminate villousities inclosing the foetal filaments enter into its formation in a larger proportion, and are of a relatively coarser character" (Owen). In the specimen Owen describes, the greater portion of the convex surface of the placenta was smooth, the rough part, separated from the serotine portion, occupying a narrow tract. In this specimen, however, we see that the rough part composes the entire surface.

"The outer surface of the chorion for the most part is smooth, but at each of the obtuse extremities of the sac there is a villous and vascular subcircular patch, the villi being short and graniform, one sixth of a line or less." We find the patches well shown in this specimen, though the villi are longer.

The chorion is connected with the uterus principally by the annular or zonary placenta, and also at each pole of the sac by means of the subcircular patch just mentioned. The umbilical cord, when inclosed as it was by the delicate neck of the allantois, the connecting cellular tissue, and the covering of the amnion, probably measured in this specimen about 15 inches, but as we find it, with envelopes torn off, it measures, from the foetal end to the entrance of the blood-vessels into the placenta, 32 inches. The cord is formed by one venous and two arterial trunks, covered by the membranes, as just stated, and is more or less flattened. In circumference it measures four inches.

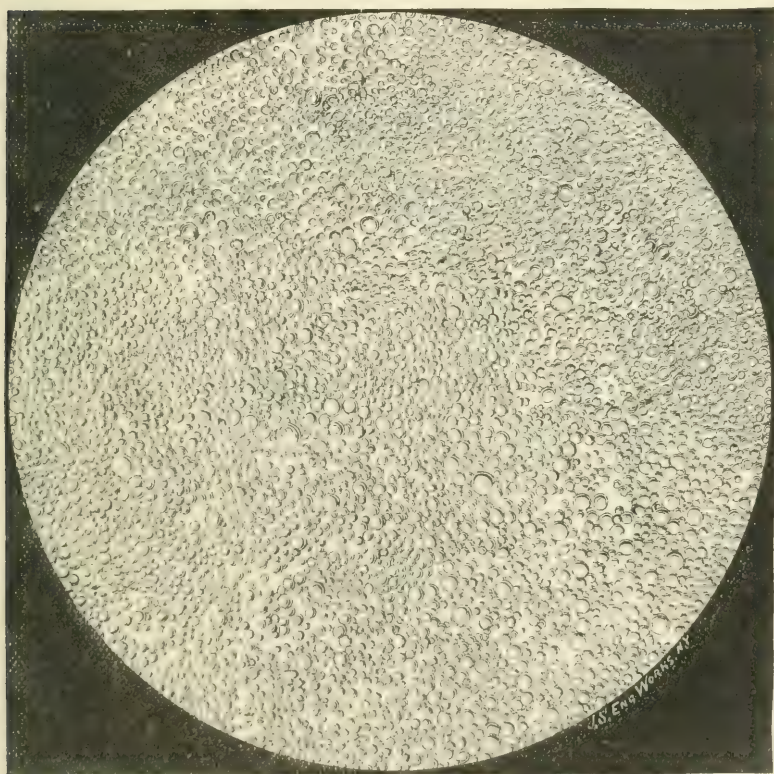


FIG. 3.—COW'S MILK.*

From a photomicrograph by Mr. Manny Miles, Director of the Experiment Department of the Houghton Farm, Mountainville, Orange County, N. Y.

The amnion on its internal surface is covered by dark, rough granules placed hemispherically, varying in size from one half to

* For the photomicrographs from which this and the following drawings were copied we are indebted to the kindness of Mr. P. T. Barnum.—EDITOR.

two lines ; its external surface is corrugated, but not rough. A bag can always be found in the natural state, formed by the non-vascular layer of the allantois, of considerable size, which is continued from the base of the cord, and is so arranged between the chorion and amnion as to prevent any part of the amnion from attaining the inner surface of the placenta.

The allantois divides into three sacculi. One extends over the inner surface of the annular placenta and for a short distance into one end of the chorion ; a second extends into the opposite end of the chorion ; while the third subdivides into two smaller cavities, each ending in a cul-de-sac. Unfortunately, the tissues are so much mutilated that it is impossible to demonstrate this arrangement of the allantois. "The branches of the umbilical arteries and vein diverge from the umbilical cord in four divisions ; they reach, first, the borders of the placenta, and then ramify in its substance and

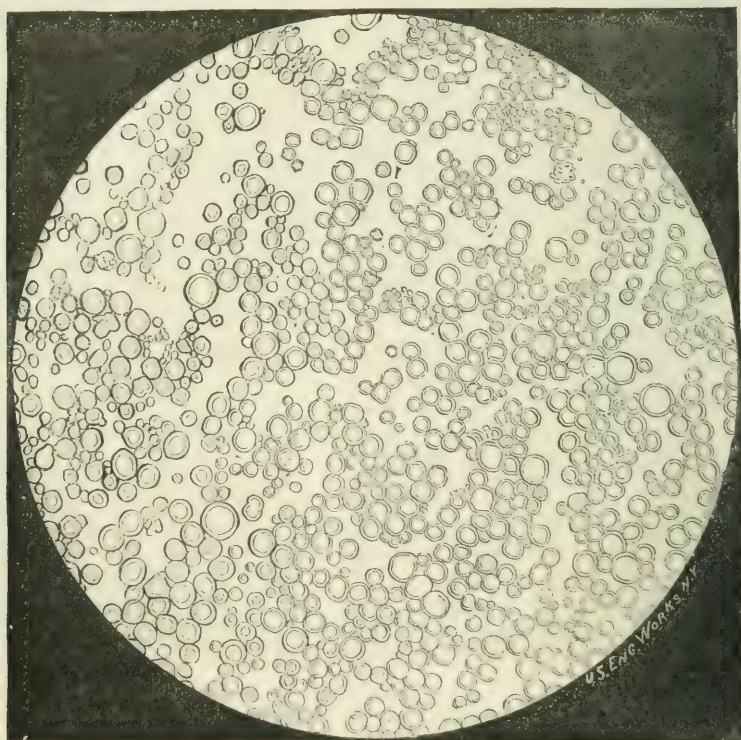


FIG. 4.—ELEPHANT'S MILK.

From a photomicrograph by Mr. Miles. The amplification is the same as in Fig. 3.

upon the inner surface of the chorion." This arrangement of blood-vessels is easily seen in the specimen. "Upon the endo-chorionotic

vessels are developed a number of flattened, oval or subcircular bodies, of a compact structureless tissue" (varying in diameter in this instance from an inch or two to a few lines). They are very numerous near the placenta, and become scattered as they near the poles of the chorion. Owen counted 120 of these bodies, and in this specimen I have counted 208.

Since writing the foregoing, I have read Dr. Henry C. Chapman's monograph upon "The Placenta and Generative Apparatus of the Elephant," in the "Proceedings of the Academy of Natural Sciences of Philadelphia," second series, vol. viii, which contains a number of illustrations of the placenta, membranes, and generative apparatus. In the illustration therein given the placenta is shown to be continuous, while the one shown by me, as stated already, is divided into five parts.

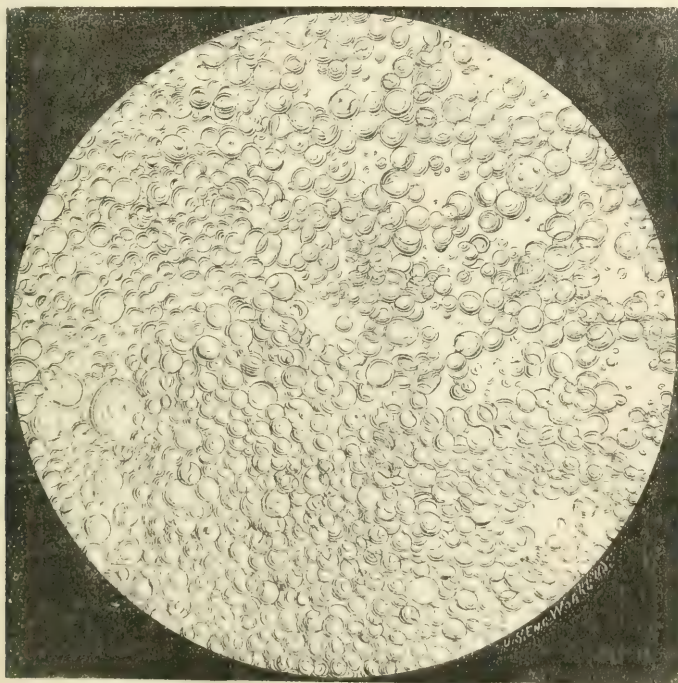


FIG. 5.—ELEPHANT'S MILK.

From a photomicrograph by Mr. Edward W. Martin, Assistant Sanitary Inspector of Milk, Health Department, city of New York.

Professor Chapman fixes the period of gestation at from 630 to 656 days, a considerable difference from Professor Owen's case and that of the one herein given.

The photomicrographs given herewith are interesting in so far

as they are the first of the kind of elephant's milk, and are a valuable contribution to the comparative composition of milk in general.

Dr. Charles A. Doremus, of New York, has analyzed the milk of the elephant "Hebe" from specimens taken April 5, 9, and 10, 1880, which I append hereto, together with his table showing the comparative composition of milk in man and animals.

The analyses of the samples gave the following results:

	I. April 5th. MORNING.	II. April 9th. NOON.	III. April 10th. MORNING.
Quantity.....	19 c.c.	36 c.c.	72 c. c.
Cream.....	52.4 vol. p. ct.	58	62
Reaction.....	Neutral.	Slightly alkaline.	Slightly acid.
Sp. gr.....	.....	.....	1,023.7
In 100 parts by weight:			
Water.....	67.567	69.286	66.697
Solids.....	32.433	30.714	33.303
Fat.....	17.546	19.095	22.070
Solids not fat....	14.887	11.619	11.233
Casein.....	14.236	3.694	3.212
Sugar.....	.....	7.267	7.392
Ash.....	0.651	0.658	0.629

COMPARATIVE ANALYSES OF MILK IN MAN AND ANIMALS.

	Women.	Cows.	Goats.	Ewes.	Asses.	Mares.	Buffalo Cows.	Camels.	Sows.	Hippopotami.	Elephants.
Water.....	83.271	84.28	86.85	83.30	89.01	90.45	80.640	86.34	81.80	90.43	66.697
Solids.....	13.729	15.72	13.52	16.60	10.99	9.55	19.360	13.66	18.20	9.57	33.303
Fat.....	5.370	6.47	4.34	6.05	1.85	1.31	8.450	2.90	6.00	4.51	22.070
Casein.....	2.950	3.57	2.53	5.73	3.57	2.53	4.247	3.67	5.30	4.40	3.212
Albumen.....	.....	0.78	1.26	.....	.....	.....	.....	.....	.....	Milk-sugar included.	.....
Milk-sugar.....	5.136	4.34	3.78	3.96	5.05	5.42	4.518	5.78	6.07	.....	7.292
Ash.....	0.223	0.63	0.65	0.68	.....	0.29	0.845	0.66	0.83	0.11	0.629
Nitrogenized....	2.950	4.35	3.79	5.73	3.57	2.53	4.247	3.67	5.30	.....	3.212
Non-Nitrogenized...	10.506	10.81	8.12	10.01	6.90	6.73	12.968	8.68	12.07	.....	29.462

RAPID DIMINUTION OF A FIBRO-MYOMA OF THE UTERUS UNDER ERGOTINE TREATMENT, FOLLOWED BY GANGRENE OF THE COMPRESSED TUMOR, AND DEATH OF THE PATIENT FROM SEPTICÆMIA.*

By WILLIAM T. LUSK, M. D.,

PROFESSOR OF OBSTETRICS AND THE DISEASES OF WOMEN AND CHILDREN IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

THE case which furnished the specimen herewith shown was that of a domestic servant, thirty-four years old, who was admitted to my service at Bellevue Hospital November 1, 1881. I am

* Read before the New York Obstetrical Society, February 7, 1882.

indebted to Dr. W. C. Stone, late House Surgeon, for the following notes of the case :

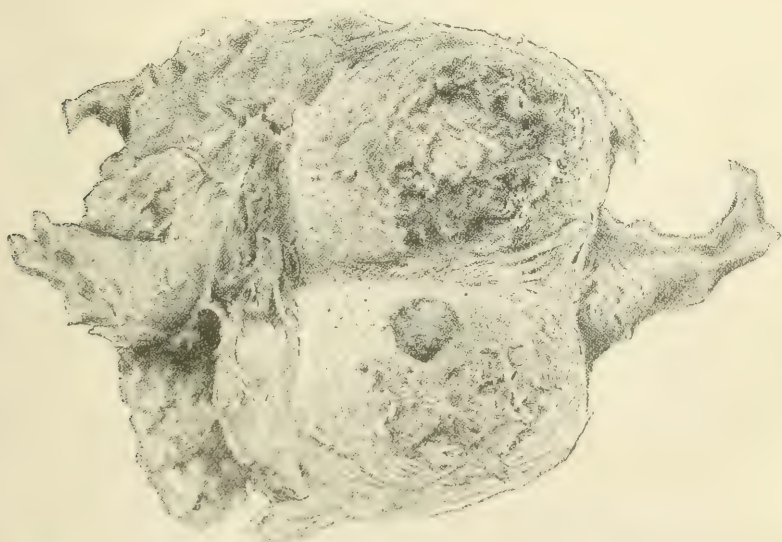
The patient states that she has had frequent hæmorrhages from the uterus for the past three or four years, often appearing twice during the month and lasting from eight to ten days. On admission she is very anæmic, and complains of weakness and anorexia.

Physical examination shows the heart and lungs to be normal. A tumor is discovered in the abdomen, extending upward to within three inches of the xiphoid cartilage. This tumor is smooth, firm, and continuous with the cervix. A sound shows the cavity of the uterus to be six inches long. The tumor has existed, according to the patient's statement, for thirteen years.

Under tonic treatment the general condition improved somewhat, but the hæmorrhages continued, often being very profuse.

On November 20th she was put upon the hypodermic injection of ergotine, gr. j every other day.* At the end of a week the tumor had diminished in size, reaching only as high as the umbilicus. The injections were continued, and the tumor could be felt to diminish day by day.

At the end of two weeks the injections were given only twice during the week, and were stopped entirely at the expiration of a month. All hæmorrhage had now ceased, the uterus could just be felt above the pubes, and the sound showed the cavity to be three inches long. The general condition of the patient had improved very much ; she was eating well, sleeping well, and rapidly gaining strength, being able to sit up several hours daily.



Things went on in this hopeful way until January 10th, about three weeks from the time the ergotine was stopped. On this day she had symptoms of a peritonitis localized in the pelvic region ; the condition did not seem very grave at first, but the tenderness soon became general, with tympanites, vomiting, etc.

* The injections were made into the subcutaneous tissue of the abdominal walls over the tumor, and *not into the tumor*.

The acute symptoms subsided in about ten days, but the patient passed into a condition which made it evident that septic poisoning was present. The temperature ranged from 103.5° to 99° F., with sudden variations; the tongue became dry, brown, and fissured; the pulse was rapid and feeble; her condition steadily grew worse; and she died on the 2d of February.

Autopsy.—The heart, the lungs, and the liver were found normal. The gall-bladder contained about a hundred small calculi. The uterus was somewhat enlarged, and contained an interstitial fibroid in its walls, which had become necrosed and gangrenous, with scattered collections of cheesy pus. The posterior surface of the uterus was bound to the peritonæum, and forming a pocket which contained thick, foetid pus. The accompanying drawing shows the tumor laid open. It will be seen that the growth, although strictly an interstitial tumor, bordered very closely upon the uterine cavity. The latter, which was divided obliquely in the section, is indicated by the dark rounded area near the center of the drawing. The spleen was somewhat enlarged and softened. The kidneys were normal.

A CASE OF OVARIAN TUMOR WITH RARE COMPLICATIONS.

BY A. P. DUDLEY, M. D., AND H. C. COE, M. D.,
OF THE HOUSE STAFF OF THE WOMAN'S HOSPITAL.

It is a well-recognized fact that statistics of ovariectomy are among the least satisfactory of any in surgery. For a man to report that he has had so many "successful cases" may mean simply that he has had the good luck to secure a run of uncomplicated ones, such as would have recovered under the hands of any other operator. The public, and even the medical public, are too prone to judge of success by the outward results alone, overlooking the skill, judgment, boldness in meeting emergencies, and the care and anxiety in after-treatment, which a surgeon has bestowed upon a desperate case, and in spite of which it has terminated fatally. To judge of an ovariectomist by a bare statement of the number of his patients who have survived the operation would be most unjust. So varied are the elements which enter into *every case* of ovariectomy, and which render it complete in itself, that it is quite impossible to institute close comparisons, either between individual cases or between the statistics of two different operators.

This is well illustrated by the records of the Woman's Hospital during the past year, where, taking the patients in the order of operation, it is apparent at a glance that here are no selected cases, but

the most difficult, as well as the simplest, which the operator could encounter. A few of the most interesting ones, occurring in the service of Dr. Thomas, have already been reported, so that perhaps an apology is necessary for adding another to the list. The rare if not *unique* character of the complications (for we do not remember having read of any similar), and the valuable deductions to be drawn from the history, will form a sufficient excuse.

HISTORY PREVIOUS TO ENTERING WOMAN'S HOSPITAL.—Married twenty years, without children. Menstruation began at thirteen, and has always been irregular and scanty, ceasing ten years ago. At the age of sixteen (the patient then living in England) she was very ill at a hospital, suffering from an acute intestinal trouble, the character of which is not definitely known. Since that time her general health has been good, but she has always been *obstinately constipated*, and suffered from occasional attacks of severe colicky pains in the abdomen, attended with vomiting and tympanites; but she has never been confined to her bed. She is said to have passed "gall-stones" on several occasions. Eighteen months ago her health began to fail, and simultaneously she noticed a slight enlargement of the abdomen, attended with severe pain, localized on the left side. Soon after this she passed three small jagged stones *per urethram*. A few days later she began to discharge fecal matter with the urine. Patient states that she has frequently passed small concretions since then. Micturition has been frequent, but not painful, during the past year. In addition to the discharge of feces, gas frequently escapes during micturition.

The growth of the tumor has been slow, but steady, confined almost entirely to the left of the median line, and attended with constant intense pain and marked symptoms of gastric disturbance. A short time before entering the hospital she was under the care of Dr. Mann, of Hartford, who tapped the tumor, but obtained no fluid.

Entered the hospital March 7th. The patient's general appearance was bad. She stated that she had passed the greater part of the last five months in bed, suffering greatly from pain in back and sides, with frequent attacks of nausea and vomiting.

She was examined by Dr. Thomas, who was unable to arrive at a positive diagnosis in regard to the character of the tumor. He felt a great deal of doubt as to its origin, and as to whether it was an ovarian tumor with very thick walls or a fibro-cyst of the uterus. Upon his last examination he rather inclined to the latter opinion, but the obscurity of the case was so great that he determined to leave the question to be decided by an exploratory incision. Before coming to this conclusion, however, he had decided that removal of the tumor, whatever its nature might be, would be entirely impossible, from its complete fixation and firm adhesion to all surrounding parts. At the same time the presence of an entero-vesical fistula was noted. As the woman persisted in having an operation he consented to make an exploratory incision, and to drain the cyst, without attempting its removal.

The patient was placed upon the usual preparatory treatment (tonics, saline inunctions, etc.). Her urine was clear in color and of normal character several days before operation. The bowels were kept open by enemata, and the diet was principally liquid.

OPERATION.—The patient was removed to an isolated cottage in the hospital grounds April 1st, being hardly in fair condition.

The operation was not intended to be a radical one, and the patient was so informed. Dr. Thomas made an incision 4 inches in length, to the left of the median line, this being the most prominent part of the tumor, thus dividing the abdominal muscles. The sac, which was found to be firmly adherent on all sides, was punctured, and a quantity of dark-brownish, colloid material evacuated, with the patient turned upon the side. The external incision was extended to 5 inches; the cyst opening was also enlarged, and the operator introduced his hand and broke up a number of secondary cysts, removing their contents. No fluid was allowed to enter the peritoneal cavity. On careful examination of the cyst it was found to be so firmly adherent to the intestines and pelvic viscera that it was deemed unwise to attempt its removal. Accordingly, the edges of the cyst-opening were stitched into the edges of the wound, a Thomas's double drainage-tube being introduced into the sac, brought out at the lower angle of the incision, and held in position by interrupted wire sutures. Time of operation, forty-five minutes. The patient required no stimulants, having a good pulse throughout.

Not to repeat the familiar details of after-treatment as practiced at the hospital, we shall give only a synopsis, mentioning the most interesting points.

The patient was quite comfortable during the night following the operation, and had no increase of temperature. There was some oozing from the walls of the sac early in the evening, which was checked by the injection of a weak solution of subsulphate of iron. After this the cyst was washed out with carbolic acid (6 to 60–80) regularly every six hours.

Toward midnight the temperature began to rise, reaching 101·6° F. at 2.30 A. M. At 5 A. M., the temperature remaining the same, the cold-water coil (which has now largely supplanted the douche at the hospital) was applied to the abdomen, and the thermometer indicated 100° in a couple of hours. Five minims of Magendie's solution were given immediately after the operation, and ten minims during the night.

Sunday, April 2d (Second Day).—Comfortable day. Temperature fell to 99·8° at 10 A. M., the pulse being 106, and rather feeble. Up to this morning 3 xvij of *clear, normal* urine had been drawn by catheter. Ordered brandy and water, two or three teaspoonfuls every half hour.

Temperature rose at noon to 100·8°, but was soon reduced to 100° by the application of the coil. (This apparatus, as applied to its present use by Dr. A. B. Townshend, House Surgeon to the hospital, consists of several coils of small rubber tubing, through which a constant current of cold water at any desired temperature can be kept running, on the principle of the siphon. It is placed upon the abdomen of the patient, and, by reason of the flexibility of the rubber, readily adapts itself to the natural folds of the body. The weight of the apparatus is inconsiderable. It has thus far been employed in upward of twenty cases, with the most gratifying results, not only in promptly reducing the temperature, but in keeping it steadily within normal limits.)

At 4.30 P. M. the usual enema of quinia, gr. xv, liq. opii, gtt. xv, beef-juice, 3 ij, was given, and repeated every six hours subsequently.

Monday, April 3d (Third Day).—Patient had a quiet night, the temperature rising to 101·4°, but falling to 99·6° under the use of the apparatus above mentioned. The sac had been washed out at regular intervals with the carbolic solution. Up to this time the patient had only received gr. ss. of morphia hypoder-

mically, and gtt. xxx of liq. opii by enema, as she had very little pain. The temperature during the day did not rise above 100°. The urine thus far had preserved its normal appearance, and showed no traces of admixture with faecal matter. During the day it acquired a dark, smoky hue. The patient vomited several times a clear, watery fluid.

Tuesday, April 4th (Fourth Day).—The temperature did not range above 100·2° during the night. Toward morning the pulse became weak, so that stimulants were freely given. The patient was restless and uneasy all night, but later sank into a sort of stupor. At 9 A.M. the pulse was again feeble, requiring additional stimulants. The urine was of a smoky color, depositing a thick sediment.

When Dr. Thomas called, at 11 A.M., the patient was in a stupid condition, with pupils markedly contracted, so that opium-narcotism was suspected. But this drug had been suspended for two days. The suspicion of carbolic-acid poisoning, by absorption through the walls of the cyst, had arisen soon after the change in the character of the urine was noted, though it should be distinctly stated that, owing to the presence of this entero-vesical fistula, the urine was liable at all times to be mingled with liquid fæces, rendering an accurate examination impossible. In order to avoid all danger in this direction, dilute alcohol (10%) was substituted for the carbolic solution, and the injections were continued every six hours as before.

Wednesday, April 5th (Fifth Day).—The condition of the patient was not changed. She vomited frequently, and required stimulants every half hour. The temperature was not elevated above 100°. She was very restless, with feeble, fluctuating pulse, beating at 100. No pain since opium was discontinued. The urine continued to have a dark, muddy appearance, but whether from the presence of faecal matter or not could not be determined.

Thursday, April 6th (Sixth Day).—Patient vomited several times during the night, and complained of pain in the abdomen. Temperature 100°, pulse 100. Brandy and water every half hour, with the usual enemata. The urine was to-day of clear color and normal character, and continued so during the day.

Friday, April 7th (Seventh Day).—Comfortable night. Urine again dark and smoky. Patient unable to retain enemata. No vomiting during the night. Brandy and oyster broth taken every half hour, but the patient was evidently sinking. Temperature not above 100°, pulse 112.

Saturday, April 8th (Eighth Day).—Patient very restless, and could not retain enemata. Evidently sinking rapidly. Urine dark and turbid, with a strong faecal odor. The temperature ranged from 99·6° to 100·2°, the pulse being 112. Later in the day liquid fæces were passed with the urine. The bladder was washed out.

Ordered gin and water, $\frac{z}{ss}$. every fifteen minutes. Temperature 99·8°, pulse 100 and very weak. At 3.30 P.M. patient could not swallow, and became unconscious. Had retained no enemata for twenty-four hours. Pulse fluttering. Died at 5 P.M.

The following is a condensed report of the autopsy, as made by Dr. Welch:

Exterior.—Moderate emaciation. An incision eleven centimetres long extends obliquely through the abdominal wall, from above downward, to the left

of the middle line. The upper edge of the incision is five centimetres below the level of the umbilicus, and five centimetres from the median line.

Heart and Lungs.—Nothing of importance.

Peritoneal Cavity.—The visceral and parietal layers of the peritonæum are so firmly united by old adhesions that it is with difficulty that the cavity can be opened at all. The liver is adherent to the diaphragm, anterior abdominal wall, stomach, duodenum, and transverse colon. The spleen is surrounded by old adhesions. The coils of small intestine are adherent to the abdominal parietes, and are so firmly glued together that they form an inextricable mass. The intestines are also adherent to the posterior wall of the bladder, the superior and posterior aspects of the uterus, and to the surface of tumor, to be described later. Douglas's fossa is entirely obliterated, nor can anything be seen of the uterus or its adnexa at this stage of the examination. Upon separating the adhesions near the fundus of the bladder, a cavity of about the size of a hen's egg (diameter four centimetres) is found, which seems to be a portion of the general peritoneal cavity, shut off by adhesions. It is bounded in front by the posterior surface of the bladder, at its upper third, laterally and posteriorly, by the mass of adherent intestines. This cavity communicates both with the small intestine and with the bladder, in the former case by two fistulous openings about six mm. in diameter, situated close together, and each leading into a separate knuckle of small intestine. As nearly as can be ascertained, one communication is with the ileum, the other with the jejunum. There are three openings from this false cavity into the bladder, situated side by side, and separated only by narrow bridges of tissue; the largest measured one centimetre in diameter, the others two and three mm., respectively. The bladder is thus opened through its posterior wall, near the fundus. The cavity above described contains a mass of soft, yellowish faecal matter, and three hard, black calculi of irregular shape—all too large to have passed, fully formed, through the fistulous openings in the intestines. (Analysis of these calculi showed them to be enteroliths.)

Spleen.—Distorted by surrounding adhesions.

Kidneys.—Pelves and calyces are much dilated, the renal parenchyma being atrophied and the seat of a chronic diffuse nephritis. No evidence of an acute interstitial nephritis. The dilated pelves contain a dirty, brownish, purulent fluid, having an offensive urinous odor. Both ureters are greatly dilated, the dilatation extending along their whole course, the caliber of the right being nearly equal to that of the small intestine. The ureters contain an offensive fluid similar to that in the pelves.

Liver.—Covered with adhesions from an old peritonitis.

Stomach.—Dilated. Adherent to the diaphragm, abdominal walls, and liver.

Pelvic Viscera—Bladder.—This organ is capacious, its long diameter being eleven centimetres. It presents near the fundus the three fistulous openings above described, the vesical edges of which are smooth, rounded, and covered by the everted mucous membrane. The bladder contains soft faecal matter, turbid urine, and gas. There are no evidences of cystitis.

Uterus normal. On the right side the adnexa are completely buried in a mass of adhesions. Upon the left side the site of the ovary is occupied by a polycystic tumor, which fills the pelvic cavity and extends upward into the abdomen. Its diameter is four centimetres. It is adherent to the small intestines and to the sigmoid flexure, which lies behind it. The anterior wall of the main cyst has been opened, and is united to the edges of the external incision. The

upper half of the tumor has a peritoneal covering, while the lower half is devoid of it. It is evident that this is a so-called "intra-ligamentous" cyst. On opening the growth it is found to be a multilocular ovarian cyst, having one large cavity, the inner wall of which is covered with papillomatous growths. This inner surface is of a black color, and in places is sloughing. The cyst-wall averages one centimetre in diameter, and has the usual composition.

To attempt to solve completely the complicated problem presented by the autopsy would be to deal largely in theory, in the absence of positive facts. We can only infer a possible sequence, which may, or may not, be true. The hopeless nature of the case was apparent at the outset, since the tumor itself was only one of several conditions threatening the life of the patient.

In reviewing the facts of the case, taking the early history of the patient for what it is worth, it is evident that she had suffered from some obscure abdominal affection long before the appearance of the tumor rendered the latter the principal object of apprehension. Taking into consideration the frequent attacks of pain, with the marked gastric and intestinal disturbances, in connection with the wide-spread adhesions found on autopsy, we can not avoid the inference that the woman was a sufferer from chronic peritonitis for several years before entering the hospital. The original cause of this condition is not clear. There is, of course, a natural temptation, from the standpoint of the gynecologist, to connect it with some previous inflammation of the pelvic organs, though the sequence can not be traced. Whether the lesions in the small intestines succeeded to the peritonitis, or whether they served as foci from which the general inflammatory process radiated, is also obscure. It is quite possible, reasoning from the post-mortem evidence, that the prolonged constipation, which was such a prominent feature in the history, led to the formation of enteroliths, which became impacted in the folds of the intestine, producing ulceration, and eventually perforation of the gut. It was stated that the patient had at different times discharged small concretions through the urethra, and, furthermore, that those found in the pseudo-cavity after death were too large to have passed through the fistulous openings fully formed, an additional proof that the fistulae were also of long standing. It is an interesting fact that the urine did not always show the existence of direct communication between the intestine and bladder; at times it would be perfectly clear for days together, then would be mingled with fecal masses. It is significant that it generally retained its normal character when the patient had been upon solid diet for some time. A return to liquid nourishment would ordinarily lead to a reappearance of faeces in the bladder.

To explain the condition of the urinary organs is the most difficult task of all. It is strange that, in spite of prolonged contact with irritating matter, the mucous membrane of the bladder showed no evidences of inflammation. The state of the kidneys and ureters, indicating a process of long standing, was remarkable, considering the fact that there had been nothing pointing particularly to renal complications during life. In fact, the urine, as examined just before operation, when temporarily clear, contained no albumen, and showed nothing abnormal on microscopic examination. To all appearances the kidneys up to this time had been acting normally every day. Shall we not argue aright if we infer a contraction of the caliber of the ureters by old adhesions near their point of entrance into the bladder, with a resulting hydronephrosis and chronic diffuse nephritis? The condition of the other viscera, distorted by peritonitic adhesions, will sufficiently explain the other symptoms to which attention has been called. As regards the tumor, we can only say that it was concomitant with the other conditions. It is a wholly thankless task to attempt to establish the etiology of ovarian cysts, as we have learned from a review of over a thousand published cases, and by careful questioning of patients in the hospital. One can only say that they grew—how, or why, no one can tell. That this tumor should have contracted adhesions was to be expected from the nature of its surroundings at the time when it originated. Its removal, as proved by the autopsy, would have been unjustifiable, if not impossible. A word as to the operation. It offered a slight chance for amelioration of the most distressing symptoms, but one which the patient was willing to risk. What the practical result of permanently emptying the cyst would have been is doubtful. We shall not speculate upon it, but note briefly a few points of interest in the after-treatment. The presence of carbolic-acid poisoning was quite possible. A few well-authenticated cases of absorption through the walls of the cyst under similar circumstances are upon record.

Certain it is that the vomiting, mental hebetude, contracted pupils, and other peculiar symptoms, gradually disappeared after the carbolic injections were discontinued. Again, when we remember the condition of the kidneys, the possibility of uræmic poisoning must be admitted, though we had no careful analysis of the urine upon which to base a positive opinion. The daily amount passed ($\bar{3}$ xx-xxv) was *above* the average quantity secreted by most patients during the week following operation. As before stated, all tests for urea would have been vitiated through the presence of

faecal matter, and, for the same reason, the dark, smoky color was no sure indication of the influence of carbolic acid.

The temperature was at no time above 101.8° , and there was no reason to suspect septicæmia, even of a low grade. The character of the pulse from the beginning and the necessity of frequent recourse to stimulants favor the belief that the patient died simply of asthenia, and not as the direct result of either of the complications mentioned in this paper. The wonder is that she survived so long the shock of an operation which calls for all the vitality of the strongest.

THREE CASES OF A PAINFUL AFFECTION OF THE WRIST.

By EDWARD H. BRADFORD, M. D.,

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CASE I.—A lady, forty years of age, with a record of unusual health, and without tuberculous, rheumatic, or other taint, inherited or acquired, began to suffer from a pain in her right wrist, which she attributed to a slight strain she had met with a few months before. Instead of diminishing, the pain increased; at times it was quite severe, and began to be accompanied by slight swelling at the joint. Paroxysmal pain was felt shooting up the ulnar edge of the hand and forearm, which at times interfered with sleep, and was aggravated by sudden motion in a certain direction or by jar. Motion was possible to one half the normal amount; slight swelling was present over the carpal region on both palmar and dorsal aspects, and there was marked atrophy of both the forearm and the muscles of the thumb and hand. The pain was most severe in the middle of the carpal region, and after the subsidence of the other symptoms the pain remained longest here.

For several months no treatment except painting with iodine and rubbing with liniment was employed. No benefit, however, followed. The application of a rubber bandage also failed to relieve the symptoms, and a silicate-of-potash bandage was worn for several weeks, securing complete fixation. Under this treatment the pain quickly diminished, and finally disappeared, but again became troublesome on removing the stiff bandage. This was reapplied with benefit, and worn for a month longer. No pain followed. A rubber bandage was applied and friction employed systematically, followed by passive motion and gradual gain in the use of the hand. Six months, however, passed before the hand became perfectly well. It has remained so up to the present time, one year and a half after recovery. The patient at present is perfectly able to use her hand, the stiffness, swelling, and atrophy having all disappeared. None of the other joints of the body were affected.

CASE II.—A woman, thirty-five years old, a nurse by profession, was seized, without known cause, with severe pain in the left wrist. This was worse at night, and was referred to the region of the os magnum. Tenderness was marked in this region, and, on the application of pressure, pain at this point was aggravated. There was slight puffiness at the wrist; motion was not noticeably

affected. The pain was worse at night. A sudden twist or pressure by seizing the wrist aggravated the pain.

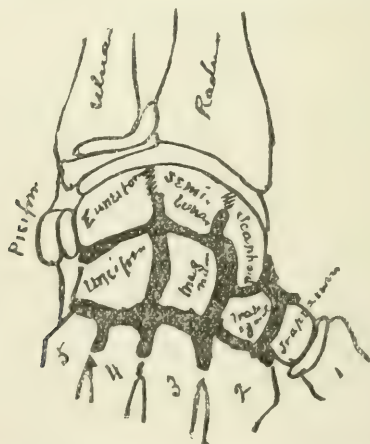
The hand and forearm were bandaged on to a light splint, and this was worn for a week, after which gradually increased motion was allowed. This was not followed by any recurrence of severe pain. At times the patient has, however, had slight tenderness at the wrist, but in the year that has since elapsed no attack has intervened which interfered with the use of the hand or occasioned suffering.

CASE III.—A domestic, forty years of age, injured her wrist, as she thought, in wringing clothes. Symptoms similar to those in Case II followed—viz., slight swelling, no interference with motion, pain and tenderness over the carpus. The patient discontinued her work for a week, and the hand and forearm were bandaged for a few days. After this the symptoms disappeared and did not recur.

In these cases the following were the symptoms common to all: pain referred to or most severe at the middle of the carpus; slight swelling; an absence of constitutional disturbance, and with no interference, or but partial interference, with motion of the articulation between the carpus and the radius and ulna. The symptoms were in all relieved by fixation, and recovery took place finally after a period of rest.

In 1860 Gosselin described what he termed tarsalgia adolescentium,* an affection which was characterized by a synovitis of the medio-tarsal joint without any implication of the articulation between the tibia and the astragalus.

Judging from analogy, it seems probable that the cases here reported were similar to a degree, differing somewhat in their course



from the fact that the wrist, a part easily immobilized from the first, and not the tarsus, was affected.

* Raynaud, "Gaz. des Hôp.," 1877, No. 49; Duplay, *Ibid.*, Oct. 9, 1879; Chambard, Thèse de Paris, 1877.

The synovial membranes of the carpus are five in number. Leaving out of account the smaller ones—i. e., those between the pisiform bone and the cuneiform, the trapezium and the metacarpal bone of the thumb, the ulna and the fibro-cartilage at the joint—there are two large synovial sacs, viz., that between the main carpal bones and the radius and cartilage covering the ulna, and that between the main bones of the carpus, of which the os magnum is the larger and central bone.

From the symptoms in the cases here reported it would appear probable that the inflammation was one affecting this latter synovial sac, and limited to this alone. They may therefore be termed cases of synovitis of the carpus.

Editorials.

THE ATTITUDE OF THE STATE SOCIETY.

As was to be expected, the American Medical Association declined to admit the delegates from the Medical Society of the State of New York to seats at its recent meeting at St. Paul. Whether the promptness with which this action was taken was at all due to the outbursts of horror of which certain individuals, a number of journals, and several State societies have delivered themselves—horror at the presumption of the New York society in undertaking to regulate its own affairs in accordance with its own ideas of right and expediency—is a matter of no consequence whatever. That action seemed to be a logical necessity, and that it was taken without any long parley is no loss to any one, and certainly saved the time of the meeting for other purposes.

Now, then, the national association and the New York society are fairly at loggerheads. Of course, such a state of things is to be regretted. Still, the struggle between right and wrong in this matter had to come sooner or later, and we trust that no maudlin sentimentality will interfere with its being fought out to the end. It is better that the State of New York should stand aloof from the American Medical Association for ever than retreat from the just stand it has made, or falter in the demolition of the mediæval thralldom in which the old code so lately shrouded it. We are con-

fidest that no such pusillanimous act will be committed at Albany next winter. The adoption of the new code was deliberate; the meeting at which it took place was an unusually large one, and it was generally known that the matter would come up for action. It is scarcely warrantable to say, therefore, as some of our contemporaries have said, that the measure was sprung upon the society by a small minority. The document was adopted by a two-thirds vote, under the circumstances we have mentioned. Notwithstanding the hue and cry that has lately been raised, then, the rhetoric of a few individuals, and the disapproval that is said to have been expressed by some of the constituent county societies, we repeat our conviction that the action will not be rescinded.

In due course of time it will come to be understood, we have no doubt, that the relations of man to man form no part of the proper business of such a body as the American Medical Association. Our territory is too vast, and the conditions present in its various sections are too diverse, for the long continuance of a central government in such matters. The real Government of the nation arrogates no such function to itself, but most properly leaves the several States to arrange their own domestic affairs. Save under exceptional and complicating circumstances, it has always declined to interfere even with outrageous local laws bearing upon such matters. Let the American Medical Association follow a like course.

Special Articles.

THE FEMALE PERINÆUM.*

By AMBROSE L. RANNEY, M. D.

DESCRIPTIVE ANATOMY OF THE FEMALE PELVIC FLOOR.

THE perinæum of the male has probably received more attention, as regards its anatomical structure, than any topographical region of the body.

* Blandin, Ph. Fred.—“*Traité d'Anatomie topographique*,” Paris, 1834.

Braune, Wilhelm.—“*Topographische-anatomische Atlas*,” Leipzig, 1875.

Colles, A.—“*Treatise on Surgical Anatomy*,” Dublin, 1811.

Craveilhier, J.—“*Anatomy of the Human Body*” (Pattison), N. Y., 1844.

This is largely due to the paramount importance which anatomy has assumed in the performance of lithotomy. In marked contrast to the complete descriptions given by authors of this part in the male, the utter dearth of literature pertaining to the perinæum of the female can not fail to strike those who are desirous of definite information. Savage stands almost alone as its complete exponent. Even Henle, Sappey, and Luschka fail to afford the information sought for in many essential particulars. Thomas, in his late edition, has commented upon the deficiencies of standard authors in this department of topographical anatomy; and Hart (the latest investigator) has given us but little descriptive detail in his admirable essay on the physiological construction of the pelvic floor. It is with a sense of the importance of the subject, and of my own apparent presumption in endeavoring to clear up a field which greater minds have either omitted from their

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writings or befogged by poor description, that I undertake to follow a new method of presenting this difficult problem.

If we take the descriptions of the male perinæum given by most anatomical authors (those of Gray, Henle, and Sappey are all excellent), and use them as a guide in the study of the analogous region of the female, many of the valuable cuts given by them will prove of service; since some obscure points will be made clear by tracing the analogies which exist between the sexes in the construction of this important region. Thus, we shall find that most of the muscles are alike in the male and female in their points of origin and attachment; and, where differences do exist, that they are to be explained by the requirements of the sexes. The fasciæ follow about the same course in both sexes; the vessels and nerves are, as a rule, similarly distributed; and the surgical relations of special parts present but trivial points for discrimination.

If a median incision should be made through the raphé of the scrotum, thus separating this part in the male into symmetrical halves, we should have two lips which are analogous in many respects to the labia majora of the woman. The penis, arising from the upper angle of such a wound, would find its analogue in the clitoris, which is situated in nearly the same relation to surrounding parts; the female organ is, however, smaller than the penis, imperforate, and destitute of a corpus spongiosum, and also of the urethra which perforates that body in the male. The median opening made in the divided scrotum affords an analogy to the vagina, which perforates the pelvic floor of the female. The symmetrical halves of the scrotum have their counterparts in the labia majora, which are supplied with dartoid tissue, contain the terminal extremities of the round ligaments (analogous to the spermatic cord of the male), and, moreover, reveal a sac which is capable of hernial distension, as the scrotum is. It is true that some other parts are met with in this locality in the female which are not properly represented by such a crude comparison, among which may be mentioned the urethral opening, the nymphæ, the fourchette, etc.; but the simple statement of this general resemblance, so simply made, will perhaps enable some reader to more easily appreciate subsequent points suggested in reference to the female perinæum, and to study plates of dissections of this region in the male with special reference to their bearings upon the anatomy of the woman.

STEPS PREPARATORY TO DISSECTION.—To properly dissect the female perinæum, the vulvar opening, vagina, and rectum should be stuffed with cotton, and the lips of the vulva stitched together so as to assist in the proper removal of the various layers whose relations are to be studied. The vessels can best be injected through the iliac arteries or the aorta, as the arteries of the pelvic segment of the body can thus be more completely filled. The veins can be filled by means of the iliac veins, because the valves of the pelvic venous system are either entirely absent or incapable of offering any serious obstacle to the entrance of the injection. The ordi-

nary plaster-of-Paris injection will answer all requirements if carefully prepared.

SUPERFICIAL PERINEAL FASCIA.—If we remove the skin from the soft tissues which help to fill up the pelvic outlet, the first structure met with is a fascia heavily loaded with fat, the superficial layer of the superficial perineal fascia; this is continuous above with the superficial fascia of the abdomen, and below with a similar fascia covering the thighs and nates. It invests the whole perinæum. This layer should be carefully removed, after it has been examined, in order to expose the deep layer. The superficial perineal and inferior hæmorrhoidal vessels and nerves ramify beneath it, while some branches also perforate it to reach the skin. Branches of the pudendal artery and nerve may also be found to ramify in this fascia.

This fascia brings the apparent level of the ischio-rectal fossa up to the same plane as that of the perinæum proper, since it is continued over the mass of fat which intervenes between it and the levator ani muscle. The whole space between the coccyx and the pubes seems therefore to be on a uniform plane until this fascia is removed. After its removal the outline of the ischio-rectal space is made apparent by the large deposit of fat which exists below the levator ani muscle. The deep layer of the superficial fascia of the perinæum is also exposed to view.

The *deep layer* of this fascia differs from the superficial in its attachments and inherent structure. It is destitute of fat, thin and aponeurotic, inelastic, and is evidently intended as a support for the perineal muscles, which it helps to bind together. As it descends from the anterior wall of the abdomen it becomes firmly united to Poupart's ligaments, the pubes, and the external abdominal rings, and narrowed to the width of the pubes. When it enters upon the region of the perinæum it again spreads out to reach its attachments to the diverging rami of the pubes and ischia. It does not invest the whole perinæum as the superficial layer did, but winds around the posterior border of the transverse perineal muscle of each side on a level with the bis-ischiatic pelvic diameter, and passes still more deeply to join the anterior layer of the deep perineal fascia (see Fig. 1). This fascia, where it incloses the transverse perineal muscles, forms two real ligamentous transverse bands, the *ischio-perineal ligaments*. It assists, moreover, to form a space in the perinæum from which escape of air, if artificially introduced beneath it, would be arrested as follows: Above, by its attachments to the pubes along a curved line indicating the point of origin of the anterior muscles of the thigh; laterally, by its union with the bony rami of the pubes and ischia; below, by its union with the deep perineal fascia, after encircling the transverse perineal muscles.

It is this fascia which assists to form the so-called "*pudendal sac*" in each of the labia majora, into which hernial protrusions may pass, and in which the terminal fibers of the round ligament and some fatty tissue are normally found. Savage denies the existence of dartoid tissue in any of the coverings of this sac, although it presents so close an analogy to the

cavity of the scrotum. I am personally inclined to doubt the accuracy of this statement. The discovery of this sac is accredited to Broca.* In removing tissue about the vulva it is desirable to leave this fascia untouched, as its numerous functions would be more or less interfered with were it divided. This fascia is perforated, in the female, by the superficial peri-

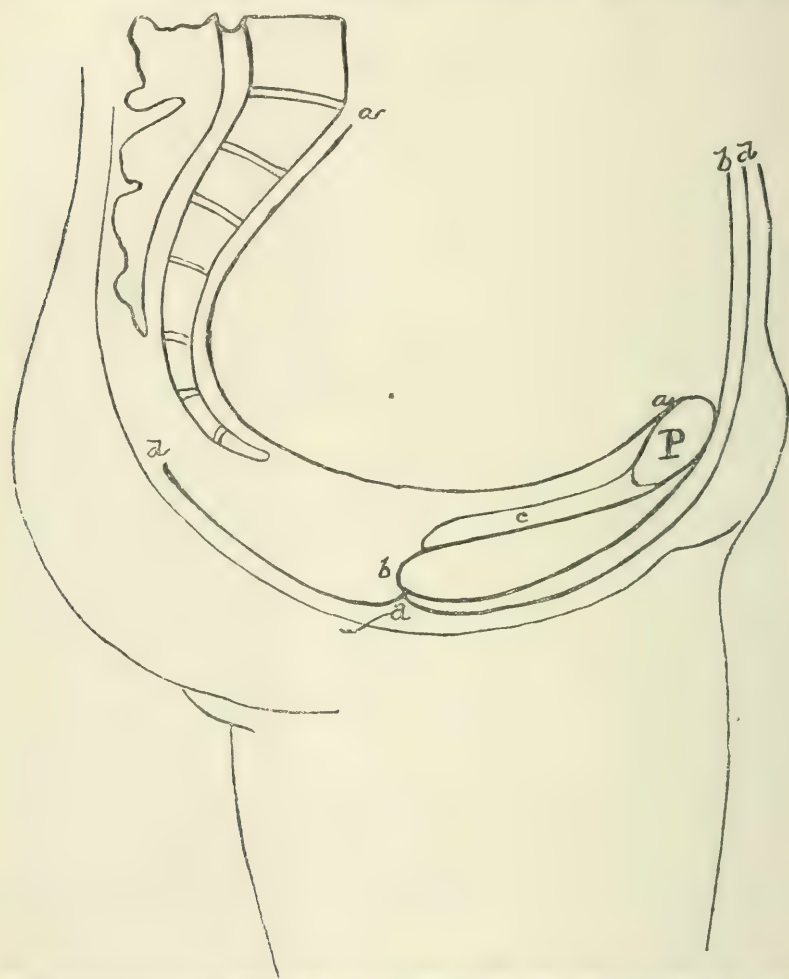


FIG. 1.†—A DIAGRAM DESIGNED TO SHOW THE FASCIE OF THE PERINEUM AND THEIR RELATIONS TO EACH OTHER.

a-a, iliac fascia; *b-b*, deep layer of the superficial perineal fascia, joining with (*c*); *d-d*, superficial layer of superficial perineal fascia, joining with (*b*); *c*, cavity of deep perineal fascia, situated between its anterior and posterior layers; *P*, section of pubes.

neal artery, vein, and nerve. In the male these structures do not perforate it.

The ischio-perineal ligaments—the free edge of this fascia—and the

* Cruveilhier's "Anatomy."

† The diagrams in this article are from drawings by the author.

transverse perineal muscle of either side, around which the fascia winds, divide the space formed by the bones at the pelvic outlet into two well-defined parts: an anterior triangle, the *perinæum* proper, and a posterior triangle, the *ischio-rectal space*. The ischio-rectal space is filled, to the level of the perinæum, with adipose tissue intersected with fibrous bands which form trabeculæ. Savage lays great stress upon the important clinical fact that this fatty tissue is never subject to hypertrophic enlargement. When suppuration destroys this adipose tissue, the rectum and anal muscles are left denuded, the former hanging in the center of this space like the clapper to a bell (Richet). The importance which pertains to this fascia in the male (as determining the course of infiltrated urine) is wanting in the female, since rupture of the female urethra is never spontaneously produced. The deep and superficial layers of the superficial perineal fascia become firmly united at the dividing line which marks the lower limit of the perinæum and the upper limit of the ischio-rectal space. Diffuse suppuration of the ischio-rectal fossa is usually arrested by this line of union between the two layers of the superficial fascia, thus preventing the infiltration of pus into the true perineal space. The diagram introduced here may help to make the relations of the fasciæ of the female perinæum more clear than a verbal description.

PARTS FOUND BENEATH THE SUPERFICIAL PERINEAL FASCIA.—The diagram which is here introduced will afford a clear conception of the parts revealed after the complete removal of the deep layer of the superficial fascia and of the fat beneath the levator ani muscle, as well as their relations to each other. The posterior border of the transverse perineal muscles is seen to constitute the dividing line between the perinæum proper and the ischio-rectal space. The bulbo-cavernosi muscles, lying at the side of the vulvar opening (*rima pudendi*), and so situated as to almost cover and thus to tend to compress the bulbs of the vagina or vestibule, afford a striking analogy to the accelerator urinæ muscle of the male, if the imagination can depict that muscle divided into symmetrical halves by a median opening. The erector clitoridis muscle of either side differs in no essential particulars from the erector penis muscle of the male, either in attachment or in situation.

The *bulbs of the vestibule* or *vagina*, depicted in the drawing, are two masses of erectile tissue which are situated at the sides of the vulvar opening, within the labia. They bear a wonderful analogy to the bulb of the male urethra, if that bulb can be imagined as divided into symmetrical lateral halves. The diagram (Fig. 2) will help to make this analogy plain. It will be seen that the bulbs embrace the urethra above and below, thus supporting this analogy, since the bulb of the male likewise surrounds it; again, the bulbs of the female are inclosed in a sheath, thus supporting the view of their erectile character, and the same is true of the male; finally, the internal pudic artery sends a branch to the bulb in the woman, as in the male. The bulb of the vagina is in intimate relation,

moreover, with the bulbo-cavernosus muscle, whose analogy to one of the lateral halves of the accelerator urinæ muscle of the male has already been mentioned. This latter muscle, in the male, embraces the bulb of the urethra.

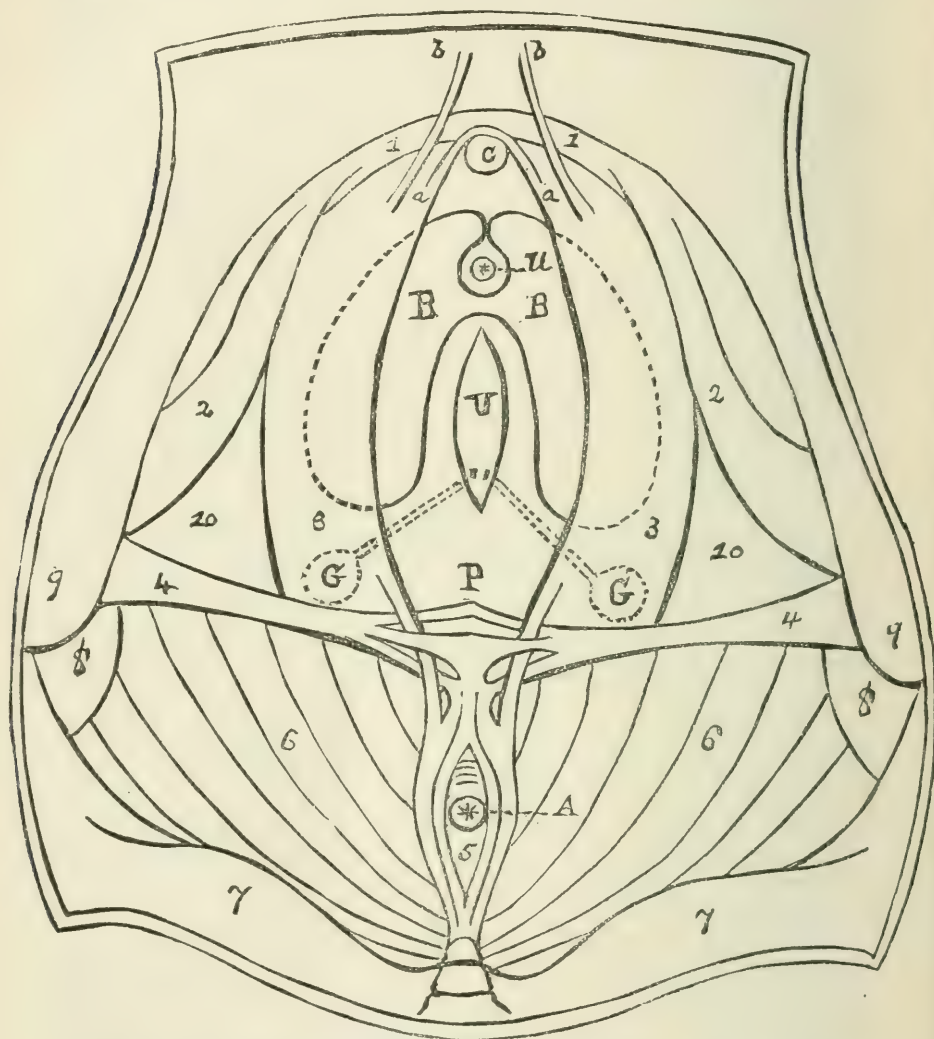


FIG. 2.—A DIAGRAM OF THE PARTS SITUATED BENEATH THE SUPERFICIAL PERINEAL FASCIA.

A, anus; B, bulbs of vagina; C, clitoris; V, vulva; U, urethral opening; G, vulvo-vaginal glands; P, perineal body; 1, crus of clitoris; 2, erector clitoridis muscle; 3, bulbo-cavernosus muscle; a, fibers going to clitoris; b, fibers going to pubes; 4, transversus perinei muscle; 5, sphincter ani muscle; 6, levator ani muscle; 7, glutens maximus muscle; 8, obturator externus muscle; 9, tuberosity of ischium; 10, deep perineal fascia, forming the floor of a triangular space.

The *vulvo-vaginal glands* (glands of Bartholin or of Duverney) are described by Huguier, who has devoted some space in his monograph upon the secretory glands of the sexual organs of the female to the discussion of

their situation, as placed in front of the deep perineal fascia and immediately below the posterior extremities of the bulbs of the vagina. Savage likewise so depicts them in his plate of the female perinæum, and, in his text, fully confirms the statement of Huguier. Most of the later gynæcologists also repeat this description, probably influenced rather by their reading than by actual dissection.

I confess my surprise when, in an endeavor to verify this statement which seems to have been so generally adopted, I discovered that a probe, which had been passed into the duct of this gland before the dissection was commenced, could still be seen and felt to pass deeper into the perinæum after the bulbs, muscles, and crura had been removed and the triangular ligament completely laid bare. Four subsequent observations have convinced me either that the cases met with have been curious anomalies, or that the situation of these glands has been incorrectly stated by previous authors. In every case the glands were found to lie posterior to the triangular ligament and in close relation with the muscular fibers of the levator ani. The artery which furnished the blood supply of the gland was found to be a branch of the internal pudic artery, given off between the two layers of the triangular ligament—the deep perineal artery of some authors, and not the transverse perineal artery, as is commonly stated, as that artery is distributed in front of the deep perineal fascia. In Fig. 2 I have drawn these glands and their ducts in dotted lines, so as to indicate that their situation, in my opinion, is normally deeper than the other structures shown; but I have incorporated them in the diagrammatic sketch, in order that the reader should not be confused by the drawings of more familiar authors. These glands are strictly analogous to those of Cowper in the male, from which they differ only in situation, being placed posterior to the deep perineal fascia rather than between its layers. Their ducts are long (varying from three fifths to three quarters of an inch in length), and open slightly in front of the external orifice of the vagina, where they can be easily seen as two small apertures. These glands are most extensively developed in the young adult. In middle life they begin to undergo atrophy, and in old age they often entirely disappear. When distended with their own secretion or accumulations of pus, these glands may appear as a tumor of the labium, which is movable under the finger, and easily mapped out if the labium be taken between two fingers, one being introduced within the vagina. Removal of these glands is associated with troublesome hæmorrhage.

The *triangular space*, which is bounded externally by the erector penis, below by the transversus perinei, and internally by the bulbo-cavernosus muscle of either side, is an important surgical space in the male, since the knife perforates it in the lateral operation for stone in the bladder. It has no special interest in the female, save as sustaining the analogy of the perinæum in the two sexes. The floor of this space, as viewed in the drawing, gives us the first glimpse of the deep perineal fascia (the triangular liga-

ment), which can be exposed completely only by removing the muscles beneath the deep layer of the superficial perineal fascia, the bulbs of the vagina, and the crura of the clitoris. Before passing to the deeper structures, it may be well to consider the blood supply of the superficial portions of the perinæum.

SUPERFICIAL BLOOD-VESSELS OF THE PERINÆUM.—Between the skin and the superficial fascia of the perinæum may be seen the superficial perineal artery and vein, and the nerve of the same name which accompanies it; also the inferior hæmorrhoidal artery and veins and the pudendal artery and veins. The superficial perineal vessels reach this situation by perforating both the anterior layer of the deep perineal fascia and the deep layer of the superficial fascia. In the male these vessels are distributed beneath the latter fascia; but in the female they usually lie anterior to it. The superficial perineal artery—called often the vulvar artery—is of greater caliber than the corresponding vessel of the male.

Beneath the deep layer of the perineal fascia the transverse perineal artery and vein are seen. These vessels run parallel with and in close proximity to the anterior border of the muscle of the same name, and send branches to that muscle and the parts in that neighborhood. The bulb of the vagina also receives a part of its vascular supply from this vessel. As will be shown in a subsequent diagram, this artery pierces the deep perineal fascia to reach the area of its distribution, which is situated anterior to that fascia.

The veins of this region are abundant. They compose the most superficial portion of the erectile venous system of the female. It is difficult to give a clear verbal description of this venous system, whose ramifications are extensive and whose communications form a continuous chain of vessels, from the rectum behind to the vulva anteriorly, completely investing all the intermediate organs, and forming, at certain spots, aggregations of vessels composing erectile venous plexuses. The plates of Savage (especially Nos. VI and VII of Wood's edition) will afford the best conception of the course and communications of these veins of any with which I am acquainted. In the locality which we are now considering the following veins are especially prominent: (1) The primary branches which carry blood from the vaginal bulbs; (2) the superficial perineal veins; (3) the obturator veins; (4) veins which communicate with deep pelvic vessels through the vestibule, forming a plexus in the vestibule which also surrounds the terminal extremity of the clitoris, and sends prolongations downward to the region of the urethra; (5) the transverse perineal veins, accompanying the artery of the same name; (6) veins, communicating with the superficial epigastric veins, coursing over the pubes from above to join the veins of the plexus of the vestibule; (7) the veins of the bulb of the vagina, which constitute an erectile tissue of its own, thus confirming the analogy between it and the bulb of the corpus spongiosum of the male.

THE DEEP PERINEAL FASCIA (triangular ligament of the urethra;

perineal ligament of Carcassone; middle perineal aponeurosis of Blandin).—When the bulbo-cavernosus muscle of either side is removed, and the bulbs of the vagina and the vulvo-vaginal glands (?) are also lifted away from the

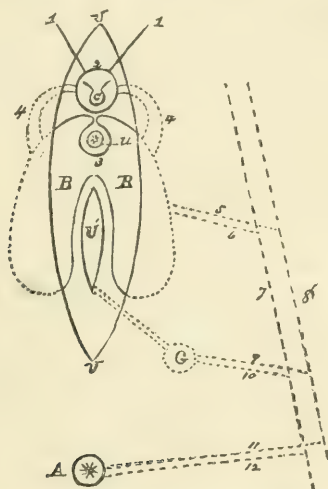


FIG. 3.—A DIAGRAM OF THE MAIN BLOOD-VESSELS OF THE FEMALE PERINEUM, THEIR ANASTOMOSES AND GENERAL RELATIONS.

C, clitoris; U, urethra; V, vulva; V', vagina; B, bulb of the vagina or vestibule; G, vulvo-vaginal gland; A, anus; 1, veins joining the perineal veins with the superficial veins of the abdomen; 2, venous plexus about the clitoris; 3, venous plexus about the urethra; 4, veins joining the urethral plexus to the bulb of the vagina; 5, 6, vulvar or superficial perineal artery and vein; 7, 8, internal pudic artery and vein, lying at the outer limit of the perineum, near the rami of the pubes and ischia; 9, 10, transverse perineal artery and vein, sometimes supplying the vulvo-vaginal gland; 11, 12, hæmorrhoidal artery and vein, supplying the region of the anus.

fascia upon which they lie, we come to a better conception of the deep perineal fascia, which has been shown in a diagrammatic way in Fig. 1, and as the floor of a triangular space in Fig. 2. It consists of two layers: an anterior and posterior, between which muscular fibers, blood-vessels, and nerves are found. As in the male, these two layers of fascia arise from the sub-pubic ligament above; are inserted laterally into the rami of the pubes and ischia, becoming intimately blended with the periosteum, and become united at the level of a line drawn between the tuberosities of the ischia, where the deep layer of the superficial fascia also dips in to become united to the anterior layer of the deeper fascia. This fascia is called the "triangular ligament of the urethra" in the male; but it has been described by Savage as the "perineal septum" of the female. The former term seems to designate its form better than the latter, to my mind; and, by preserving a similarity of nomenclature in the perineum of either sex, the reader is enabled, moreover, to trace with less danger of error the analogies which present themselves. In the male the cavity between the two layers of the triangular ligament is more apparent than in the female, since the layers are more widely separated. In the female they lie nearly parallel with each other, and are more closely united to the muscular fibers which help

to separate them. Both layers of this fascia are perforated by the vagina and the urethra; but in the male by the urethra only. Within the cavity of the triangular ligament of the female certain muscular fibers are analogous to the compressor urethræ muscle of the male, and others to the deep transverse perineal muscles found in that sex; the dorsal vein and artery of the clitoris are the same in direction and distribution as the dorsal vein and artery of the penis in the male; and the vagina finds here an opportunity for a bony insertion for some of its fibers.

The anterior and posterior layers of this fascia are continuous above with the sub-pubic ligament. The posterior layer is backed by those fibers of the levator ani muscle which take their origin from the pubes and the margin of the obturator foramen. The fascia can not therefore be perceived from behind unless these muscular fibers are first removed. The small space which intervenes between the urethra, before it perforates this fascia, and the posterior aspect of the symphysis pubis, reveals a structure which is analogous to the prostate gland of the male. That portion of the female urethra which corresponds to the situation of this prostatic structure occasionally contains minute concretions, which are similar to the small prostatic calculi often found in the male urethra.

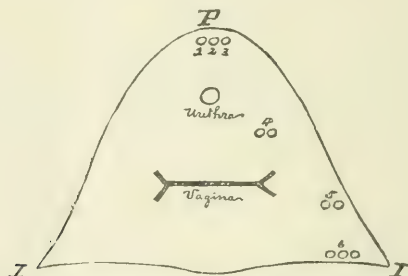


FIG. 4.—A DIAGRAM TO SHOW THE STRUCTURES WHICH PIERCE THE TRIANGULAR LIGAMENT. P. pubes; I. I. bis-ischiatic line; 1, 2, 3. pudic artery, vein, and nerve; 4. artery and vein of the bulb; 5. transverse perineal artery and vein; 6. superficial perineal artery, vein, and nerve.

The bulbo-cavernosus, transversus perinei, and levator ani muscles are afforded important attachments by the deep perineal fascia; while the compressor urethræ muscle, situated as it is between the two layers of this fascia, is so closely united to both as to render its detachment from them a matter of no small difficulty. The vagina finds a bony attachment for its muscular fibers between the layers of the triangular ligament. Near to the rami of the pubes the internal pudic artery runs in a canal formed between the anterior and posterior layers of this fascia. The transverse perineal and the superficial perineal branches reach their points of distribution by perforating the anterior layer of this fascia, since they arise from the internal pudic artery between its two layers.

The enormous dilatation which the vagina is capable of during labor, and also independently of the pregnant state, suggests that the triangular

ligament of the female must differ markedly in its construction from that of the male, since that fascia forms a resistant partition in the latter sex which would preclude any such expansibility, even if a physiological process should demand it. I have not examined its structural elements with sufficient care to decide as to what the essential points of distinction are in the female; but I believe that a preponderance of elastic fibers can be established in the female, and of fibrous tissue in the male.

THE PERINEAL BODY.—That portion of the perinæum which is situated between the so-called posterior commissure of the vulva and the anus was first named the “perineal body” by Henle, although Savage has brought the term into general use. The following structures seem to be intermingled in this body: 1. A large amount of elastic tissue. 2. The transversus perinæi and bulbo-cavernosus muscles of each side, the sphincter ani externus and internus, and those fibers of the levator ani muscle which arise from the obturator margin and the recto-vesical fascia. 3. The perineal septum, below the vagina. 4. The ischio-perineal ligaments, formed by the deep layer of the superficial perineal fascia. 5. Some cutaneous muscular fibers which are interchanged between the central terminations of the bulbo-cavernosus, sphincter ani externus, and transversi perinæi muscles. In the median line, this body possesses less vascularity than is to be detected in its other portions. The vessels which supply it are chiefly the superficial perineal, transverse perineal, and superficial hæmorrhoidal. The liability to rupture during the expulsion of the fœtus, which the situation of the perineal body necessarily entails, renders the anatomical construction of this part, as well as its physiological functions, a matter of sufficient importance to justify earnest inquiry. The gaping of a lacerated perinæum is due chiefly to the action of the transversi perinæi muscles and some fibers of the levator ani which enter into the composition of the perineal body, which are directed almost transversely. This will be more apparent when the diagram of the levator ani muscle is carefully studied.

THE MUSCLES OF THE FEMALE PERINÆUM—*Bulbo-cavernosus.*—This muscle arises from the perineal body and a considerable portion of the anterior layer of the deep perineal fascia (triangular ligament). Its middle fibers are inserted by a thin slip into the crus of the clitoris, above and in front of the insertion of the erector clitoridis muscle of the same side, while its external fibers pass around and beneath the crus to be inserted into the bulb of the vagina immediately below the urethra. A few median fibers appear to be a continuation of the sphincter ani externus, and are prolonged upward to the clitoris and the arch of the pubes, to be lost in the superficial fascia of the perinæum. This muscle is often spoken of as the “sphincter vaginæ”; but the name is probably a misnomer, since it is analogous to the accelerator urinæ muscle of the male. Savage has demonstrated that the true sphincter muscle of the vagina is, in reality, a part of the levator ani (the pubo-coccygeus muscle). This point will be discussed

at greater length in a subsequent page. Of all these muscles, the *levator ani* possesses the greatest anatomical importance. The descriptions of its exact attachments, and of the course of its individual fibers, are sadly at variance among different authors of note. In the male the muscle has a most important function in assisting to a great extent the retention of urine within the bladder, in addition to its other actions; and it is to be presumed that in the female some analogous functions exist. It is a broad, thin muscle, extending from the side of the pelvis to meet with fibers of its fellow in some regions, while other fibers are stretched between two bony points. It has been divided by Savage into two distinct muscles—the *pubo-coccygeus* and the *obturato-coccygeus*. I am inclined to accept his subdivision of the muscle, as it seems to me to be logical and well adapted to impress the mind with the actual distribution of its fibers. In addition, the subdivision of the muscle is sustained upon physiological grounds, and is in accord with the subdivision of the muscle in the male, first suggested by Santorini, and since his time accepted by Albinus, Soemmerring, and most of the later anatomists.

(To be concluded.)

Reviews and Literary Notes.

Insanity and its Treatment. By SAMUEL WORCESTER, M. D., Lecturer on Insanity, Nervous Diseases, and Dermatology at Boston University School of Medicine; Member of the American Institute of Homœopathy, etc. New York and Philadelphia: Boericke & Tafel, 1882. Pp. 462.

THIS work is intended to fill a void in homœopathic literature as regards psychological medicine, and, coming *ex cathedra*, may, we presume, be regarded as embodying the most advanced thought of a "school" which professes to represent a system of therapeutics far superior to the gropings of the unadjectived profession at large.

The pages which deal with the symptomatology and pathogeny of the different forms of insanity are to a large extent included between quotation marks, and should be almost altogether so, as they are avowedly compiled from the familiar writings of Maudsley, Bucknill, Blandford, Esquirol, Griesinger, Despine, Morel, and other more or less recent authors; all, with the exception of a brief metaphysico-scriptural citation from Dr. Garth Wilkinson, from our "old school," the effete and unenlightened laggard-

ness of which the homœopathic fraternity so often decries. The only strikingly original observation which we meet with in respect of etiology is in relation to puerperal mania, where it is stated that "after the expulsion of the child there remains an extensive suppurating surface. . . . Later we find the lochial and lacteal secretions established for a longer or shorter time," etc. Even in his citations the author has overlooked some not very new researches, as where he remarks that "the posterior convolutions, and especially those of the cerebellum, are more involved in manifestations of the emotions, affections, and passions"; while in the chapter on hysteria (the worst in the book) no mention is made of Charcot's investigations or those of his disciples, nor is there any allusion to Burq's metal-therapy, which might fairly claim a place alongside of the internal administration of the trillionth of a grain of "cuprum" or an infinitesimal dose of platina.

With regard to treatment, however, a wide diversity from the methods with which our readers are likely to be conversant is in most instances decidedly noticeable. We say advisedly "in most instances"; for there are occasional exceptions, as in the frequent clinical references to forcible feeding through the stomach-tube; to patients "sleeved," "jacketed," "tied in a chair," or placed in the crib; in the approval of "prolonged warm baths with cold effusions [*sic*] to head"; in the use of rectal suppositories containing ten grains each of tannic acid; and in the admission that in some cases the homœopathist will find himself forced to use chloral "in doses of from fifteen grains upward" (p. 200), or "twenty or thirty grains at night" (p. 274), because otherwise his patient may "pass into another physician's hands." For the same reason bromide of potassium in ten-grain doses may be made ancillary to the decillionth of a grain of belladonna. But, aside from these concessions to expediency, the principles and practice of the work have a different and a contrary tenor. The Hahnemannian dogma, discarding pathological considerations and basing medication upon the "totality of the symptoms," is reaffirmed, and the "*similia similibus*" doctrine is throughout insisted on as the only rule of treatment. In stupor with dilated and insensitive pupils and loss of conjunctival reflex, digitalis is "homœopathically indicated" if there be present the "grand characteristic" of a full, regular, and *very slow* pulse. Where melancholia supervened upon the disappearance of a chronic eruption, "arsen. alb., high, brought the eruption back and cured the case." Dilatation of pupils accompanied by "dryness of nose, mouth, tongue, and throat," with red skin and frequent pulse, is the prominent indication for belladonna; but this drug seems to resemble Æsop's satyr, for it benefits either "excessive thirst or aversion to all liquids"; in the thirtieth potency it abates acute mania with violent excitement, and in the first potency it relieves melancholia with mental hebetude. "Defective circulation with lowered vitality," nausea, vomiting, and cold sweats, imperatively calls for *veratrum album*. *Cantharis* is indicated by "great excitement of the sex-

ual organs." Opium, "in spite of its abuse by old-school physicians," is called for in "deep coma" with glassy eyes and "snoring." *Rhus tox.* will "relieve the belief of having been poisoned." The resemblance of the totality of the symptoms of general paralysis to those of drunkenness is regarded as "thoroughly indicating" alcohol, though, if the patient's delusions approach those of the hashish-eater, *cannabis indica* may be preferable. In a case of hysteria, after the failure of other remedies, "the irregularity and feebleness of the heart's beat drew attention to hydrocyanic acid 30th." In the treatment of chorea it is alleged that the "old school" has "found useless and cast aside" all of its supposed remedies, "simply because they" (meaning presumably the old school aforesaid) "have no law guiding their choice"; while in the wiser light of homœopathy *nux vomica* is indicated by twitching of the jaws, and chalk during the second dentition.

To those who accept the *post ergo propter* method of ratiocination, the clinical records of cures under homœopathic medication will carry conviction. A case of melancholia, beginning in March, 1879, is reported as "discharged recovered" on July 29th, the only treatment mentioned being the prescription of "*natr. mur.*"; *anglice*, common table salt; a circumstance which leads one to wonder whether—by working the homœopathic rule the other way—the etiology of melancholia lies in the practice of using chloride of sodium for culinary purposes in more massive doses. In another case we have a patient in whom, after nine months of illness, a vaginal examination shows prolapse, hypertrophy of the cervix, and "three small polypi," with manifest endotrachelitis and dysmenorrhœa. Strange to say, these symptoms were not relieved by some six weeks' administration of "*merc. sol.*," but the polypi are alleged to have decreased in size after the local application of *sanguinaria* powder—a therapeutic result which ought to prove that *sanguinaria* is capable of producing polypi in a healthy uterus. The next case gives us a wider range of treatment, beginning on June 2d with "*aurum 3d.*" followed on the 8th by "*sulphur 30th*" for constipation, and on the 10th by "*alum 3d.*" "on account of white lead which she had taken some weeks before." On the 13th, as she is better out of doors and worse in a warm room, she has "*pulsatilla 30th*"; on July 4th, being "very bad," she is "put in sleeves" and has "*aurum 3d*"; and on the 10th she is "cribbed," and, for "a very offensive-smelling, yellowish, thick leucorrhœa," takes "*sepia 30th.*" which seems to be too active a preparation [or not active enough?], as on the 9th it is changed to "*sepia 200th.*" On the 27th she has "*graphit. 30th.*" and, being "no better" on the following day, "*sulphur 30th.*" which on September 1st is "changed to *arg. nitr. 30th.*" After eight months of treatment of this varied sort she is "discharged cured." A patient reported as having melancholia, but with a temperature curve rising gradually to 106.5° F. in the second week, and as gradually subsiding down to the twenty-third day, recovered under $\frac{1}{6}$ -drop doses of tincture of *baptisia*. Another instance combining accuracy of diagnosis with felicity of

treatment is that of an unmarried young woman who had not menstruated for eleven months. Two days after taking *secale* (the potency not mentioned) "she had a profuse discharge from the womb of thick, black, putrid substance looking like disintegrated liver, and very offensive. The bloated abdomen had assumed its natural size, and she awoke from her stupor appearing better than for a year." This is cited as a typical case of mania.

The most remarkable example recorded in the book, however, is that of a young lady with chronic mania following sunstroke, who, being pronounced incurable after four years of treatment by other medical men, was fortunate enough to fall into the hands of the professor of *materia medica* in a homœopathic college. This gentleman hesitated for a moment between the merits of *belladonna* and *hyoscyamus*, both of which will produce in a healthy person symptoms similar to those presented by his patient; but, reflecting that the former drug especially induces "dislike to conversation," a disposition to move the hands, dilatation of the pupils, and other indicia prominent in the case before him, he "gave the patient one dose thereof, in the 4,000th potency." On the following day there was a slight medicinal "aggravation"; but after that a steady amelioration continued, until, at the expiration of six months, the professor "surrendered the young lady to her father and mother in a perfect state of health"; no other medication than the single dose of *belladonna* aforesaid, and the avowed "placebo" of sugar of milk, having been employed.

Among the special "indications" for particular specifics in insanity, we find that *calcareo carbonica* is called for if there be "sleep disturbed by dreams of dogs, fires, corpses, and death," with glandular swellings and leucorrhœa like milk, and an aggregate of symptoms which ignorant practitioners of our own sort would be apt to treat with chalybeates and cod-liver oil. If there be uterine displacement with "bearing down," constant pressure on the rectum and bladder, "thin, brown, acrid leucorrhœa," etc., then *lilium tigrinum* "has no superior," and will render the materialistic meddling of gynæcology superfluous. Sulphur is often temporarily "useful as a developer, bringing out symptoms at first hidden and unapparent," reminding us in this respect of the powders employed by the doubtful diagnostician to "develop" convulsions in his little patient, for the reason that, these established, he was "death on fits."

Pages might be filled with the recital of symptoms alleged to be produced by (and therefore curable by) such reputedly harmless substances as muriate of sodium, *lycopodium*, carbonate of sodium, silica, *chamomilla*, etc.; but for these we must refer the curious reader to a perusal of the book itself.

A System of Surgery, Theoretical and Practical, in Treatises by various Authors. Edited by T. HOLMES, M. A. Cantab., Surgeon and Lecturer on Surgery at St. George's Hospital, etc. First American, from second English edition, thoroughly revised and much enlarged, by JOHN H. PACKARD, A. M., M. D., Surgeon to the Episcopal and St. Joseph's Hospitals, Philadelphia, assisted by a large corps of the most eminent American surgeons. In three volumes. Philadelphia: Henry C. Lea's Son & Co., 1881-'82. Pp. xxvi-35 to 1007; xxvii-27 to 1063; xxxv-27 to 1059.

THE publication of the second London edition of Mr. Holmes's *System of Surgery* was completed in 1871, and, in the ordinary course of things, we should expect a third edition to make its appearance in a short time. With all the disadvantages inherent in a variorum work, that third edition will yet doubtless be found to contain matter so matured by its authors that the treatises will maintain for another term of years the high position they have held in the esteem of the profession. If there is any good reason for "Americanizing" such a work—and on that point we have decided doubts—we think the American editor and his publishers would have done well to wait for the new London issue, for certainly, if a piece of work is to be touched up, he who gives the finishing touches had better take the original artist's production at its best. With this obvious reflection before them, there will, however, doubtless be many who will prefer these three handsome volumes, issued at a reasonable price, to the expensive but shabby work of the English publishers.

The American contributions to the work are as follows: The editor, Dr. J. H. Packard, furnishes an article on Operations upon the Arteries, and another entitled "Various Operations." He has also revised the articles on Fractures, on Dislocations, on Injuries of the Pelvis, on Diseases of the Rectum, on Hernia, on Excisions of Bones and Joints, on Minor Surgery, and on Surgical Diagnosis and Regional Surgery, and, in conjunction with Dr. Charles T. Hunter, the article on Amputation. Dr. Hunter, besides his joint work with the editor, revises the articles on Injuries of the Face and on Injuries of the Back. Dr. J. A. Lidell has revised the article on Injuries of the Head; the late Dr. J. T. Hodgen, those on Injuries of the Chest and on Injuries of the Abdomen; Dr. E. T. Caswell, that on Injuries of the Lower Extremity; Dr. G. C. Harlan, that on Diseases of the Eye; Dr. C. H. Burnett, that on Diseases of the Ear; Dr. J. S. Cohen, those on Diseases of the Nose, on Diphtheria and Croup, on Diseases of the Larynx, on Diseases of the Thyroid Gland, and on Apnœa; Dr. C. McBurney, that on Diseases of the Tongue; Dr. J. W. White, those on Diseases of the Mouth, on Diseases of the Male Organs of Generation, and on Gonorrhœa; Dr. J. Truman, that on Surgical Diseases connected with the Teeth; Dr. J. H. C. Simes, those on Inflammation and on Diseases of the Intestines; Dr. J. B. Roberts, those on Collapse and Shock and on Scrofula; Dr. J. N. Hyde, that on Syphilis; Dr. M. Longstreth, that on Tumors

and Cancer; Dr. P. S. Conner, those on Abscess, on Sinus and Fistula, on Gangrene, on Ulcers, on Injuries of the Upper Extremity, and on Affections of the Muscular System; Dr. T. G. Morton, those on Burns and Scalds, on Injuries of the Neck, and on Plastic Surgery; Dr. S. Ashhurst, those on Animal Poisons and on Surgical Diseases of Childhood; Dr. L. A. Stimson, those on Wounds of Vessels, on Diseases of Veins, and on Diseases of Arteries; Dr. W. Hunt, those on Erysipelas and on Pyæmia; Dr. J. S. Jewell, those on Tetanus and on Hysteria; Dr. R. Bartholow, those on Delirium Tremens, on Diseases and Injuries of Nerves, and on Locomotor Ataxy; Dr. E. L. Keyes, those on Diseases of the Urinary Organs, on Urinary Calculi and Lithotomy, and on Lithotripsy (with an appendix on Litholapaxy); Dr. A. J. C. Skene, that on Surgical Diseases of Women; Dr. T. M. Markoe, that on Diseases of the Bones; Dr. E. H. Bradford, those on Diseases of the Joints, on Diseases of the Spine, and on Orthopædic Surgery; Dr. H. McGuire, that on Gunshot Wounds; Dr. J. C. Reeve, that on Anæsthetics; Dr. T. A. McGraw, that on Diseases of the Breast; Dr. J. Leidy, those on Parasites and the Diseases which they produce, and on Venomous Insects and Reptiles; and Dr. N. Folsom, that on Hospitals. An article on Injuries and Diseases of the Absorbent System, by Dr. S. C. Busey, is added to the original work, and the original article on Diseases of the Skin is supplanted by one written by Dr. A. Van Harlingen.

So far as we have observed, these gentlemen have done their work well, but the phrase, "a large corps of the most eminent American surgeons," on the title-page, strikes us as a trifle high-flown. .

A Practical Manual of the Diseases of Children, with a Formulary. By EDWARD ELLIS, M. D., late Senior Surgeon to the Victoria Hospital for Sick Children, etc. Fourth edition, revised and enlarged. Philadelphia: Presley Blakiston, 1881. Pp. xviii-523.

THE fourth edition of this little work is very welcome, it having been out of print for some time. The style of the book is eminently clear and to the point; it is one of those in which it is easy to find anything we may wish to read about. The formulary includes a dietary, both being full of good suggestions. It is in every way a book from which one who has not time to consult more exhaustive treatises may inform himself very thoroughly with reference to the cardinal points pertaining to diseases of children and their treatment.

Ensayo sobre la Accion Fisiológica y Terapéutica del Jaborandi. Tesis para obtener el Título de Médico y Cirujano presentada y sostenida ante la Junta Directiva de la Facultad de Medicina y Farmacia por ABEL GUTIERREZ. Guatemala: Tipografia "El Progreso." Pp. 45.

THIS little pamphlet was written as a graduation thesis. It is a summary of what has been published in journals and elsewhere on the subject

of jaborandi and its alkaloid, pilocarpine. In the case of drugs of such recent introduction, text-books are necessarily behind the times, and pamphlets like this are a great convenience—even a necessity.

Fashion in Deformity, as illustrated in the Customs of Barbarous and Civilized Races. By WILLIAM HENRY FLOWER, LL. D., F. R. S., F. R. C. S., P. Z. S., etc. With illustrations. London: Macmillan & Co., 1881. Pp. xi-85. Nature series. [Price, 75c.]

PROFESSOR FLOWER has brought within the limits of this dainty little volume a very interesting account of some of the barbarous practices by which mortals succeed in distorting and disfiguring "the noblest work of God." It should be commended to the laity, who ought to draw some wholesome lessons from it, together with strength to wrestle with the perversity and tyranny of fashion.

The Prescriber's Memoranda. New York: William Wood & Co., 1881. Pp. 301.

NOTWITHSTANDING its title, this handy little book does not seem to have been prepared for the mere prescriber, for it deals more or less with the principles of therapeutics, and even with surgical procedures. It is as good as any of its class that we remember to have met with. We have repeatedly expressed our opinion of the class.

BOOKS AND PAMPHLETS RECEIVED.—A Manual of Obstetrics. By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., etc. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xx-25 to 325, inclusive. ===== Diseases of the Ear in Children. By Anton von Troeltsch, M. D., Professor in the University of Würzburg. Translated by J. Orne Green, M. D., Aural Surgeon, Boston City Hospital, etc., from Gerhardt's Handbuch der Kinderkrankheiten. New York: William Wood & Co., 1882. Pp. 165. ===== Medical and Surgical Reports of the City Hospital of the City of Boston. Third series. Boston, 1882. Pp. viii-390. ===== Lectures on Diseases of Children. A Hand-Book for Physicians and Students. By Dr. Edward Henoch, Director of the Clinic and Polyclinic for Diseases of Children in the Royal Charité, and Professor in the University of Berlin. New York: William Wood & Co., 1882. Pp. viii-357. [Wood's Library of Standard Medical Authors.] ===== Transactions of the Obstetrical Society of London. Vol. xxiii, for the year 1881. With a list of Fellows, Officers, etc. London: Longmans, Green & Co., 1882. Pp. lvii-325. ===== Materia Medica and Therapeutics. Inorganic Substances. By Charles D. Phillips, M. D., M. R. C. P. etc. Edited and adapted to the U. S. Pharmacopœia by Laurence Johnson, A. M. M. D., etc. Vol. II. New York: William Wood & Co., 1882. Pp. vi-340. [Wood's Library of Standard Medical Authors.] ===== The Physician Himself, and What he should Add to the Strictly Scientific. By D. W. Cathell, M. D., late Professor of Pathology in the College of Physicians and Surgeons of Baltimore, etc. Baltimore: Cushings & Bailey, 1882. Pp. 194. ===== On the Treatment of Cancer.

By John Clay, Professor of Midwifery in Queen's College, etc. London: J. & A. Churchill, 1882. [Pamphlet. Price, 1s.] ===== The Experimental Method in Medical Science. Second course of the Cartwright Lectures of the Alumni Association, College of Physicians and Surgeons, New York. By John C. Dalton, M. D. New York: G. P. Putnam's Sons, 1882. Pp. 108. [Price, \$1.25.] ===== A Contribution to the Subject of Nerve-Stretching. By William J. Morton, M. D. [Reprint.] ===== The Death-Rate of Memphis. By George E. Waring, Jr., Newport, R. I. [Reprint.] ===== Sanitary Survey of Indianapolis. By Thad. M. Stevens, M. D., etc. [Reprint.] ===== Observations on *Filaria Sanguinis Hominis* in South Formosa. By W. Wykeham Myers, M. B., Surgeon to "David Manson Memorial" Hospital. Shanghai: printed at the Statistical Department of the Inspectorate General of Customs, 1881. [Pamphlet.] ===== Papers and Proceedings of the National Association for the Protection of the Insane and the Prevention of Insanity, at the stated meeting held in New York City, January 20, 1882. New York: G. P. Putnam's Sons, 1882. Pp. 55. ===== Board of Health Report for the Biennial Period ending March 31, 1882. Honolulu, 1882. [Pamphlet.] ===== The Domain of Physiology, etc. By T. Sterry Hunt, LL. D., F. R. S. [Pamphlet.] ===== Indiana State Board of Health. Rules and Regulations, etc. [Pamphlet.] ===== Tenth Annual Report of the New York Infant Asylum. [Pamphlet.] ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

A REGULAR meeting was held February 7, 1882, Dr. CHARLES C. LEE, President, in the chair.

REMOVAL OF THE UTERUS FOR MALIGNANT DISEASE.—Dr. T. A. EMMET said that on the preceding Friday, February 3d, he had removed the uterus under the following circumstances: A woman, about fifty years of age, who had passed the menopause twelve years before, had a show, and another within a month, so that the first intimation of any trouble had been within two months previous to the operation. He found the uterus larger than natural, and containing a growth just within the cervix which bled readily. There had been some loss of tissue so that the finger could be passed into the uterine canal. There was a mass to the left, near the fundus, regarding the nature of which he could hardly make up his mind, but evidently it did not involve the connective tissue, since it was attached to the uterus and was perfectly movable with that organ. As the case was one of malignant growth, and the patient was in good health, he thought that if entire removal of the uterus was ever justifiable it was in this case. A statement of the facts having been given the woman, with anything but an encouraging prospect from the operation, and at the same time having been told that if it were not done she had no hope for the future beyond two years at the

utmost, she decided to have the uterus removed, and insisted upon it. Dr. Emmet undertook the operation with a great deal of misgiving, and, not being satisfied with anything yet written with regard to the easiest method of removing the uterus, he had operated on the dead subject. He thought in this case it was the most difficult operation he had ever performed, owing in part to a want of proper instruments, and to the great obesity of the patient. The bladder was hidden in masses of fat, and, although he had introduced a sound as a safeguard, it was cut into above the pubes. Silk sutures were introduced, and the viscus was held by a ligature in the hands of an assistant as he advanced with the operation. An attempt was made at the beginning to make an opening into the posterior cul-de-sac, through which the fingers might be introduced from above into the vagina, so as to aid in the passage of the sutures, but was unable to accomplish this, as the cul-de-sac could not be reached by the vagina, or the parts brought into view from above. After great difficulty he succeeded in passing a silk loop, by means of a Peaslee needle, from the vagina a little in front of and close to the cervix, into the anterior cul-de-sac, at the angle formed by the broad ligament, uterus, and bladder; then the suture was passed over the middle of the broad ligament, and down just beyond the utero-sacral ligaments into the vagina. A silk loop was thus introduced on each side, and by means of it a double strand of coarse silver wire was passed. As these ligatures were wider apart behind the uterus, all vessels going to the uterus would be intercepted. Much difficulty was experienced in passing the ligatures, as the point of the needle could not be properly directed or protected by the finger, in consequence of the great depth of the vagina. But finally, all being in readiness, the silver ligatures were twisted in the vagina on each side, and the uterus was removed without any loss of blood. It was his intention to close the opening into the vagina by passing sutures on each side from above and twisting the ends afterward in the vagina, but this had to be abandoned. A silk ligature was tied around each Fallopian tube, near where it was separated from the uterus, and passed down through the opening into the vagina. When sufficient traction was made, the raw surfaces turned into the vagina, so that the peritoneal surfaces rolled together, and the opening was closed above. The woman was placed on her side, and an attempt was made to close the vaginal vault as if the opening were a fistula. This was found exceedingly difficult to do, and, as the intestines could not escape, the opening was left in this condition for free drainage. He had prepared himself for the development of peritonitis with the arrangement of small India-rubber tubes spoken of at a previous meeting. Instead of using plates of block-tin through which to pass the cold water, a matting of coiled India-rubber tubing was made at the suggestion of Dr. Townshend, the house surgeon, and applied over the abdomen, the head, and the thighs, according as there were indications for it by a rise of temperature, and ice-water was made to pass. The mat on the abdomen was placed under the outer dressing. At first, water of the ordinary temperature was used, but the temperature on the second day suddenly rose to 103° F., when the application of the coil, in addition, over the thighs, and passing a stream of ice-water through it, soon reduced it to 99°. There had been no discharge from the wound, and no tympanites. This was the most convenient way of which he knew for the application either of hot or of cold water. There was no shock after the operation, and the patient was doing well so far, with a pulse of 106 and a temperature of 99° at the end of the fourth day.

The report of the pathologist of the hospital, Dr. W. H. Welch, on the speci-

men, was then read: The uterus measured eight centimetres in length, of which four belonged to the cervix. From the left border of the body of the uterus, near the fundus, a subperitoneal fibrous tumor projected, of about the size of a hen's egg. The entire uterus had been removed. The Fallopian tubes, the round ligament, and the ovarian ligament had been cut close to their attachments to the uterus. The walls of the cervix uteri were swollen, particularly the inferior portion. The part most involved was the posterior lip in its vaginal portion. The mucous membrane of the lower part of the cervix was occupied by a new growth with papillary projections. The corpus uteri appeared to be normal. Microscopical examination: The structure of the new growth was that of a typical epithelioma. There were many alveoli filled with flat epithelial cells. These alveoli presented sometimes the appearance of irregular dilated tubes. The stroma consisted of fibrillated connective tissue, extremely rich in fusiform and round cells. None of the so-called canceroid pearls so frequently found in epithelioma in this region were discovered. The large size and number of the alveoli, and the great number of small cysts, as well as the stroma, would indicate special malignancy of the growth.

There was one point in the case, said Dr. Emmet, which Dr. Welch had not mentioned; that was, laceration of the cervix. The woman had a child twenty years ago, and was sterile afterward. When Dr. Emmet first saw her these granulations were springing from the mucous membrane, extending along the cicatricial line on the cervix, in a row as distinct as a furrow in a field, and were seen by his assistants at the hospital. Dr. Bache Emmet had been treating the case for a while by applications, but, finding the disease spreading so rapidly, he had reported the condition, and the fact caused the operation to be hastened. He thought that very few cases would justify this operation, as so early a stage of the disease would be very seldom indeed met with in practice; perhaps not once during the entire practice of most physicians. That this was particularly a case favorable for the operation was indicated by the fact that the menopause had been passed (although the uterus had become atrophied but little), and by the facts that the organ was perfectly movable, and the patient's health good. What the final result would be could not, of course, yet be determined. In reply to a question by the president, Dr. Emmet said the operation was certainly more difficult to perform through the vagina on the dead body, where one soon lost all landmarks, and he supposed the difficulties would be greatly increased on the living subject from the uncertainty of controlling the loss of blood. There had been no indications of shock whatever, except for a moment while the intestines were returned to the abdominal cavity from the sternum, where they had been wrapped in flannel and placed to get them out of the way; the gentlemen who observed the pulse at either wrist noticed simultaneously a sudden fall; but a hypodermic injection of brandy was given, and the pulse became normal immediately on returning the intestines.

Dr. W. M. CHAMBERLAIN said that the device for reduction of temperature referred to by Dr. Emmet was identical with one which he had exhibited to the Medical Journal Association in the winter of 1873. At that time the general introduction of Weber's nasal douche—and the experiments of Mosler, of Greifswald, who had employed large internal irrigations, made *per rectum* with a tube and a funnel, for reduction of temperature, and had even stated that he had reduced the size of the spleen thereby—had led the speaker to study the matter. The availability of the hydrostatic principle of the siphon had at once occurred

to him, and he made coils and bags of India-rubber, to be applied to the head, to the joints, to the throat and eyes, and just such an one as Dr. Emmet had mentioned, to be laid upon the abdomen. These he showed to the Journal Association, and also at the meeting of the State Medical Society in 1874, believing them to be original with himself; but Dr. Gouley had shown him that Dr. Ashurst had figured a similar appliance for the head and the joints. Subsequently Dr. Otis employed a similar cold-water coil for the penis. Recently the whole thing had come back to us from Vienna as a patented device under the name of Leiter's tubes, block-tin or some similar metal being used in place of rubber tubing—a change of doubtful value. Dr. Chamberlain had also shown to the State Society the value of the siphon irrigator in washing out the cavities of the stomach, the bowels, and the bladder, and was now employing the same, in a case of high temperature prolonged for four weeks, by means of a water-bed kept at any desired temperature by water circulating through it. He believed this bed could be made a very valuable adjunct, by means of which the advantages of Kibbee's bed could be secured, at least in part and in an easier way.

Dr. EMMET said that it possessed these advantages over the block-tin: namely, that it was light, adapted itself perfectly to the part to which it was applied, and, above all, did not sweat, and caused no unpleasant sensation to the skin.

Dr. H. J. GARRIGUES said that the removal of the uterus through the anterior abdominal wall had, according to statistics, given rather bad results; the results of removal through the vagina were much better. The latest statistics which he had seen (abdominal section: ninety-four operations, twenty-four recoveries; vaginal section: forty-one operations, twenty-nine recoveries) were mentioned in a paper by Olshausen, who had himself performed the operation ten times. The results were decidedly in favor of the operation through the vagina without opening the anterior wall of the abdomen at all. With regard to a laceration of the cervix in Dr. Emmet's case, that was a very important point, for corroborative evidence was coming from every quarter of such a laceration often being the starting-point of malignant disease. A special monograph on the subject was written by Ruge and Veit, of Germany, which went to show that carcinoma was liable to develop in a cervix which was the seat of erosions. With regard to Dr. Emmet's statement that the disease was rarely discovered soon enough to justify the removal of the uterus, he entirely concurred, but occasionally it was discovered too soon. He hesitated to suggest the removal of the uterus to a patient at present under observation, although the case was one favorable for the operation, there being no tumor, and no symptom whatever except moderate pain and bleeding. Microscopical examination proved positively that there was cancer of the fundus. The patient was improving under treatment, and, were she to be informed that her disease was serious enough to suggest the propriety of so grave an operation as removal of the womb, he thought her life would be rendered miserable before the time.

RAPID DIMINUTION OF A FIBRO-MYOMA OF THE UTERUS UNDER ERGOTINE TREATMENT, FOLLOWED BY GANGRENE OF THE COMPRESSED TUMOR, AND DEATH OF THE PATIENT FROM SEPTICÆMIA.—Dr. W. T. LUSK showed the specimen, and read notes of the case. [See p. 30 of this number of the journal.]

Dr. EMMET said he had obtained very little advantage from the use of ergot in any form in such cases. When given in large doses in cases in which the tumor was not so situated as to enable the uterus to expel it, it produced congestion and pelvic inflammation. Sometimes absorption of the watery portions

of the tumor took place, but he had never seen the solid portion affected by the use of ergot.

In reply to a question, Dr. Lusk said that the decomposition of the tumor was due to the constant compression of the walls of the uterus, not to any specific effect of the ergotine, this having been discontinued four weeks before any of the unfavorable symptoms set in. The tumor, it would be seen, was completely surrounded by the muscular structure of the uterus, so that its compression could easily be accounted for. He had often given ergotine before, but without an analogous result.

A REGULAR meeting was held February 21, 1882, Dr. CHARLES C. LEE, President, in the chair.

The PRESIDENT stated, by request of Dr. T. A. Emmet, who was absent, that the patient from whom Dr. Emmet removed the uterus for cancer, the history of which up to February 7th was given at the previous meeting, died the following morning. [The further details of the case were given, in the proceedings of the Medical and Surgical Society, in the June number of the journal, p. 627.]

REGULATION OF THE TEMPERATURE BY MEANS OF WATER PASSED THROUGH COILED RUBBER TUBING.—Dr. W. M. CHAMBERLAIN presented several instruments in illustration of this method as described by him at the last meeting, and as presented to the State Medical Society in 1874. He spoke in particular of one adapted to the application of cold to the neck, which he had found very beneficial in the initiatory stage of laryngitis. These instruments could be adapted to any part of the body; they dispensed with the necessity for constant attention on the part of an attendant, the temperature could be regulated perfectly, and their application could be continued for any length of time. They were light, and much more comfortable than water-bags. He would not have brought the subject up again had not a similar but much more clumsy Vienna method been attracting attention recently. — Although not exactly in connection with this subject, he would mention the value of irrigation by means of siphon pressure, which, though not new, was not sufficiently appreciated. He had not washed out the bladder, either in the male or in the female, with any other instrument for a long period, and he found this a most simple and easy method. He had used this means of washing out the bladder in several cases of cystitis, and for washing out the stomach in cases of opium poisoning. By inserting a glass tube, open at the end, a little distance into the external meatus, the bladder could be washed out without the necessity of introducing a catheter into the urethra in cases in which that canal was sore and sensitive. By the use of this instrument, and placing the patient in the knee-chest posture, so that the water would gravitate toward the thorax, he had relieved two cases of invagination of the intestine.

RUPTURED SUPPURATING DERMOID CYST OF THE OVARY, MISTAKEN FOR OVARIAN PREGNANCY.—Dr. H. J. GARRIGUES showed a specimen from a case of this sort that had occurred in the practice of Dr. S. Mitchell, Jr., of Hornellsville, New York, and, in his capacity of Pathologist, submitted the following written report:

Principal Features of History.—The patient, thirty-four years old, married, the mother of one child ten years old, regularly menstruated up to the present trouble, which lasted nine months or a year, and ended in death followed by autopsy. Symptoms: enlargement of the abdomen, beginning in the region of the right ovary, later occupying a more central position; pain; cessation of men-

struation during five months, after which time it returned. On the 2d of August last a hypodermic syringe of pus was withdrawn, which operation was followed by shock and inflammation of the peritonæum. On the 16th of the same month sudden acute pain, and feeling of something giving way in the region of the tumor. Death six hours later.

Autopsy.—The size and shape of the abdomen would indicate about the end of the fifth month of pregnancy. The peritonæum was found inflamed. Adherent to it was a fleshy sac occupying the position of a gravid womb. On the posterior side was found a large rent out of which were pouring quantities of foul-smelling pus. Intermingled with the pus was quite a quantity of loose hairs from eight to ten inches in length. The womb was found healthy, and the sac was formed by the right ovary, and held at least two quarts. On the inside of the sac were found attached an incisor tooth, a small piece of bone, and 'a small piece of the scalp covered with hair.'

"The case was pronounced to be an ovarian pregnancy, with partial maturity, subsequent death, and decomposition of the fœtus. It was thus described by Dr. Mitchell, in the 'Medical Record,' No. 1, 1882. Dr. Mundé protested in the following issue. The specimen was afterward submitted to me for examination, and I can fully corroborate Dr. Mundé's diagnosis, which was based on the mere description of the case published in the 'Record.'

"The sac, when flattened out, measures fifteen centimetres in diameter, has only one cavity, and shows a rent nine centimetres in length, with beveled edges. Its average thickness is about two millimetres. The outer surface shows part of the ovarian ligament and the tube with fimbriæ. It is mostly smooth, but in many places covered with a thin membranous mass, which under the microscope is seen to be connective tissue in an inflammatory condition (fresh adhesions). The inner surface is rough, in many places covered with a fine fleshy network, which likewise is found to be inflamed connective tissue (pyogenic membrane). A tooth of the shape of an incisor, and a contiguous piece of bone of the size of a pea, are attached to the inner surface. In several places are seen white epidermal patches covered with light-colored hairs of various length, the longest measuring five centimetres. We observe also ridges, remnants of former partitions, and in one place a fleshy bridge. This bridge and the nearest part of the inside of the cyst have a triangular shape, and were described as 'resembling a rudimentary placenta.' Microscopical examination shows that they are simply composed of connective tissue with interspersed round cells.

"The conclusion is that the specimen consists of a dermoid ovarian cyst. There is no trace of a placenta nor membranes, which excludes pregnancy, and the tooth and small particle of bone differ in no respect from what is found in dermoid cysts in other localities than the ovary. H. J. GARRIGUES."

The report of the Pathologist was accepted.

Dr. H. T. HANKS referred to a case which he had seen in Brooklyn, in which the patient died soon after exploration. It was a typical case of dermoid cyst of the ovary, and corresponded almost exactly in its history to the present one.

HYSTERIA IN EARLY CHILDHOOD.—Dr. W. R. GILLETTE narrated a case as follows: A little girl, eighteen months old, had a habit when walking of plunging and falling on the floor for amusement. On Thursday evening last, when about to do so, her mother caught her by the arm and restrained her. The arm fell helpless by the side, the child moaned, and desired to be held and caressed. A physician in the neighborhood was called in, who could find no signs of injury,

and told the mother to tie up the arm, apply cold water, and send for their family physician, Dr. Gillette. Dr. Gillette saw the child the next morning, and found the arm hanging helplessly by her side. She was moaning and crying as if in considerable pain. Careful examination revealed no injury whatever; the pulse and temperature were normal, the appetite was good, and the bowels were regular. There was no indication of disease or injury whatever, but he remembered that the child had always been very sympathetic, wonderfully so for her age. She would even weep when sad pictures or doleful stories were presented to her. He therefore believed the case to be one of hysteria, but told the parents he would call again. In the evening he found no change; the arm was still apparently paralyzed. The next morning he was sent for in haste, and found that now the other arm also hung helplessly by her side, and, as she stood, with both arms dangling, she presented a very deplorable appearance indeed. The parents insisted on a consultation, believing that some serious traumatic paralysis had taken place, but Dr. Gillette persuaded them to postpone it until later in the day. Three hours later he called again, found the child sitting on her mother's knee, surrounded by all the relatives who could be summoned, and evidently enjoying the situation immensely. He examined the case again, and made the diagnosis of hysterical paralysis, and told the family he was then willing to have a consultation, but he would first try an experiment. The father was requested to get a ball of variegated colors and offer to play with the child, which he did after all had left the room but Dr. Gillette, the patient, and the parents. The experiment was instantaneously successful; the child played ball at once as if nothing whatever were wrong with the arms. She tried the hysterical trick again the next morning, but it did not work, and she had not attempted it since. The child was healthy. The treatment for the future was mental and moral hygiene. Dr. Gillette said he had never before seen a case of hysteria occur so early in life, nor had he found any in the literature of the subject.

The PRESIDENT remarked that all present had probably seen cases at a more advanced age, in which the nervous system of the young person became very susceptible to impressions. Many years ago, when House Surgeon in the Pennsylvania Hospital, under Dr. Addinell Hewson, he saw a case of aphonia in a little girl four years of age. It developed suddenly. She was supposed to be hysterical, and was watched carefully while at play among her companions, to see if she did not speak at unguarded moments. She was examined by several physicians, and was taken several times to laryngologists to see if the vocal organs were at fault. As a final test she was placed under ether, and, as she came out of its influence, cried lustily, and talked as patients usually do before recovering fully from the effects of the anæsthetic. The treatment after that consisted in a change of surroundings, and she remained cured. The brain had been developed at the expense of the body.

SPURIOUS PREGNANCY.—Dr. M. A. Pallen narrated the history of two cases as follows: They were analogous in this regard: that he had within the past two years attended both patients for pelvic cellulitis, one four or five times, the other three times. In both cases he had neglected to make a vaginal examination, taking their statement as to the condition of pregnancy. In the first case he had previously delivered the patient of a healthy female child, in November, 1880. The labor was followed by an attack of cellulitis of the left broad ligament and by phlegmasia dolens. She menstruated twice only after her confinement,

and came to Dr. Pallen, in March, 1881, to engage his services for her next confinement. In July he saw her again, apparently at about the fifth month of pregnancy, and she said she felt motion; the breasts were somewhat enlarged, the abdomen was much increased in size; on simple pressure it seemed to be enlarged from a pregnant uterus. In August she noticed some subsidence of the abdominal enlargement, still more in September, and in October Dr. Pallen saw her and found that all indications of pregnancy had disappeared; the uterus was apparently of about the size of his fist. He had introduced the probe into the uterus a number of times lately, and found its cavity of normal depth. She had menstruated but once since, which occurred after several times faradizing the cavity of the uterus and the ovarian regions. ——— The attacks of pelvic cellulitis in the second patient, unlike those in the first, were idiopathic so far as was known. She was married over a year ago, and, as she thought she would be confined in September last, requested Dr. Pallen's attendance, but, not expecting to be at home then, he advised her to procure the services of another physician, and Dr. Mason was engaged. He likewise believed she was pregnant. Her breasts were somewhat enlarged when first examined by Dr. Pallen, last June, and the nipples had the characteristic areola around them. Vaginal examination was not made. He saw her yesterday; she had not been confined; the uterus was normal in size; all appearances of pregnancy had disappeared; she had menstruated twice quite normally.

He had once read a paper before this society on the prophylaxis of pregnancy, in which he stated that we should never take the simple statement of the patient as evidence of pregnancy, but that an examination should always be made. Had he done so in this case one of the patients would have been saved the trouble of hiring a nurse and making baby clothes preparatory to delivery in September last.

Dr. GILLETTE said that Dr. Pallen's cases brought to mind very vividly a case which occurred in his own experience. It happened at the commencement of his practice, when he had a good many confinement cases among Irish-women. A woman, whom he had attended in two successive confinements, in due time came to engage his services for a third. She had ceased to menstruate, and thought she was five or six months pregnant. The abdomen apparently was somewhat enlarged, but no examination was made. She was told to send for him when about to be confined, which she did. While warming his hands, preparatory to going into the patient's room, Dr. Gillette could hear her going through the ordinary vocalization associated with the pains of labor. He went in prepared to do his duty, and, without making an external examination, hurriedly made a vaginal examination, and to his surprise found a small cervix uteri, the os contracted, and the uterus perfectly movable. Putting his hand on the abdomen, no tumor could be felt—only distension from flatus. He told her she was not pregnant at all. She became very indignant, called him an ignoramus, and discharged him immediately, saying she would get a physician who knew his business. Being curious to know how matters turned out, he went back boldly next day to inquire, and found her about her work. Simpson, who had written most exhaustively on this subject, and given cases, called the condition pseudocyesis. It was not uncommon for women to believe themselves pregnant when they were not in fact, but it was quite uncommon for them to go on in false pregnancy apparently to full term, and then have the logical consequence, a false parturition.

The PRESIDENT asked Dr. Pallen whether he traced a connection between the previous attacks of cellulitis and the morbid feelings and symptoms pertaining to pregnancy of which these patients complained.

Dr. PALLEN replied that in both cases the patient ceased to menstruate; in both cases the cessation in menstruation followed marital intercourse; in both instances the increase in the size of the abdomen was sufficient at least to warrant one in suspecting pregnancy; and these facts he could explain only by supposing that the previous attacks of pelvic cellulitis had produced a temporary paresis of the ovaries, which perhaps by reflex influences caused gaseous distension of the colon. The abdominal enlargement could not have been due to an accumulation of fat, or to hypertrophy of the muscular walls, or to enlargement of the uterus, unless, indeed, this organ underwent a temporary hypertrophy in consequence of the cessation of the menses. He had a case similar to the one mentioned by Dr. Gillette. Labor pains had apparently come on; he found the uterus normal as in the non-pregnant state, and told the patient so, and was discharged. Another physician came, waited twenty-four hours, when they finally reached the conclusion Dr. Pallen had done. In that case the woman had married late, and the cessation of menses, which took place immediately after marital intercourse, was due to the menopause. Another case was that of a woman who was sent in the ambulance to the Maternity Hospital from the waiting apartment in Charity Hospital, supposed to be pregnant and about to be confined. Although apparently in labor pains when she reached the Maternity Hospital, it was found to be a case of false pregnancy. A third case occurred in the practice of Dr. Flemming, Dr. Pallen being called in consultation at the patient's supposed confinement, which was ten days late according to her calculations. She had been a prostitute, got married, ceased to menstruate, and thought she was pregnant.

ON THE REMOVAL OF BENIGN TUMORS OF THE MAMMA WITHOUT MUTILATION OF THE ORGAN.—In the absence of the author, Dr. T. G. THOMAS, his paper upon this subject was read by Dr. H. D. Nicoll. [It appeared as an original communication in the April number of the journal.]

Dr. C. S. WARD remarked that he had seen most of these patients, and could bear cordial testimony to the absence of deformity after the operation (one had to search for the cicatricial line in order to see it), and to the great facility with which the operation was performed.

Dr. GARRIGUES asked Dr. Ward whether in any of these cases the tumor was situated superficially, in the connective tissue between the skin and the mamma proper, so that after turning the gland up its structure would have to be cut through in order to reach the overlying tumor.===== Dr. WARD replied in the negative.

Dr. W. M. POLK remarked that it had always been a question in his mind whether these tumors should be allowed to remain in the breast, even though they were benign, since they caused a great deal of mental disquietude. With Dr. Thomas's position in that regard he entirely agreed. His manner of operating also was certainly admirable, and the success he had attained placed the propriety of the operation beyond doubt. He thought, however, as Dr. Garrigues had suggested, that when the tumor was situated just beneath the skin it would perhaps be preferable to accept the amount of deformity which might result from the cicatrix left after cutting directly down upon the tumor, rather than cut through the entire substance of the gland after making the external incision below.

The **PRESIDENT** remarked that in operations of this kind the good to be derived should overbalance the dangers which might attend the operation, and until this was established by experiment the procedure would be open to strong criticism. In this case the excellent results obtained by Dr. Thomas placed the operation, even after making allowance for the extra skill with which he might have performed it, on a permanent basis. The method was certainly very ingenious and very useful.

Dr. **GILLETTE** remarked that in the class of cases referred to by Dr. Polk, in which the tumor was situated superficially and anteriorly in the breast, it would be much better to cut directly down upon it and remove it than to do Dr. Thomas's operation; for in the latter operation it would be necessary to cut through the entire substance of the gland, thus destroying some of the lacteal ducts, the resulting obstruction of which in future lactations might light up suppurative mastitis. We knew that where mastitis had once existed it was liable to occur again, and, with these so-called niduses of inflammatory points, originating from obstructed lacteal ducts, we could conceive of a possibility of very serious interference with the function of the gland.

Dr. **NICOLL** called attention to the fact that Dr. Thomas had spoken of the method as not being applicable in the case of very large or very small tumors, thus excluding those cases referred to by Dr. Gillette.

Dr. **PALLEN** remarked that the point of chief interest with regard to Dr. Thomas's method was to avoid deformity, and he thought this might be done to a considerable extent in the cases referred to by Dr. Gillette by cutting through the skin at the base of the breast, everting it, and dissecting out the tumor.

COCCYGODYNIA CURED BY REMOVAL OF THE OS COCCYGIS.—The case was related by Dr. **WARD**, and was interesting from the fact that relief was obtained by an operation which often failed to give the desired result. The patient, a woman, was referred to him by Dr. Walker, who was about to start for Europe. She was thirty years of age, and during the past two years had suffered very severely at her menstrual periods with pain in the coccyx, also on rising and sitting, and from severe headache. The pain became unendurable, and she said something must be done to relieve it. With the assistance of Dr. Nicoll he cut down upon the coccyx at its base, severed its attachments on either side, divided it at its junction with the sacrum by the osteotome, brought the lips of the incision together with two silver-wire sutures, and made drainage. After two weeks she menstruated, and suffered some pain and some headache; at her second menstruation she suffered no pain whatever, and had been free from pain and the headaches ever since (ten months). There had been no evidence of disease of the coccyx.

Dr. **GILLETTE** referred to the removal of this bone by means of the dentist's burr, as recently practiced by Dr. Garretson, of Philadelphia. After cutting down upon the bone, it was reduced to an impalpable powder by means of the dentist's burr, in the manner in which this instrument was used upon the teeth. Danger to the muscles and fascia on the anterior surface of the bone was thus avoided.

The **PRESIDENT** remarked that it was only in cases of disease of the bone necessitating its removal that the operation was attended with difficulty.

NEW YORK MEDICAL AND SURGICAL SOCIETY.

A STATED meeting was held February 25, 1882, Dr. ALFRED C. POST Chairman for the evening.

INTESTINAL OBSTRUCTION.—The case was narrated by Dr. AUSTIN FLINT. The patient was a man, about sixty years of age, who had suffered from constipation for several months, which became worse, and finally resulted in complete obstruction as regarded the passage of faecal matter. Gas, however, escaped in considerable quantity. There was no febrile movement, no evidence of chronic peritonitis; there was considerable tympanites. Efforts were made to overcome the obstruction, first by the careful administration of saline cathartics, and afterward by injections carried up as far as possible by means of a flexible tube, but without success. After death a stricture was found, seven or eight inches above the rectum, which would admit the end of the little finger. A more careful examination would yet be made to determine its nature.

INTESTINAL OBSTRUCTION.—Dr. W. H. DRAPER read the history of the case, together with an account of the post-mortem examination by Dr. G. L. Peabody. [See this number of the journal, p. 17.]

Dr. FLINT said that he had in his possession a calculus which had been removed from the small intestine, just above the cæcum, where it had remained for more than twenty years. It was sent to him, with a short history, by the physician who attended the case. It was cuboid in form, and measured on either surface more than two inches. Its presence during life was evinced by a tumor in that region, and frequently it gave rise to a good deal of inconvenience, though not to grave symptoms. The patient was able to continue his occupation, shoe-making.

Dr. H. B. SANDS remarked, with regard to the size of this calculus, that cases were on record of calculi of much larger size remaining in the small intestine without producing obstruction. They had also been found in a sort of pouch in the duodenum. If, however, such a calculus occupied the small intestine proper, and there were no dilatation on one side of it, it would be very sure to produce obstruction—generally complete. He had not been able to find the record of many cases of intestinal obstruction from gall-stone of so great a diameter as this one. It seemed to be a cast of the gall-bladder. The nature of the present case was obscure for many reasons, one of the most conspicuous being the absence of pain. The symptoms of this form of obstruction were known usually to be very acute. In his reading he had seen no other instance of absence of pain. A number of cases were on record in the "Medico-Chirurgical Transactions" and elsewhere of calculi as large as this one being passed *per anum*, sometimes after a brief illness, and sometimes after an illness of six or seven days' duration. In some of these cases the patient's life had been despaired of. In none of those cases which ended in recovery had the diagnosis been made until after the passage of the gall-stone. In some there was faecal vomiting. In the most interesting case the symptoms were thought to be explained by the presence of a large inguinal hernia containing intestine, and it was proposed to operate, but the patient objected. Subsequently spontaneous relief came on the passage of a gall-stone, which must have traversed the intestine in the hernial sac. In some of the cases of recovery opium and belladonna had been given; in others, cathartics. In one case three minims of croton-oil were given, which was soon followed by the expulsion of the concretion. The only statistical account he

had found of intestinal obstruction from gall-stone was contained in a memoir on this subject by Duchaussoy. That author gave an account, in more or less detail, of twenty cases, in six, or thirty per cent., of which the patients recovered. Dr. Draper had stated the reasons which had led to a decision not to operate in this case, but of course it was a great disappointment to find, at the autopsy, an obstruction which might have been removed by mechanical means. Had he found the gall-stone before death, he would have removed it. The only reason why he failed to discover it when making manual exploration by the rectum was, that the band of peritonæum which passed across the middle part of the rectum was so very tight that it prevented the hand from making its usual excursions. He was convinced, however, that, had his hand passed that point, as it usually could do, he would have felt the calculus, because it was well below the level of the umbilicus. He thought, should he meet with a similar case, or indeed with any obscure case of acute intestinal obstruction, he would propose to make a manual exploration of the rectum in the earliest stage, because it could then be made with the best prospect of gaining information, which sometimes could not be obtained simply because the intestine was distended with gas; and because, if indications for an operation were afforded, it could be undertaken early with the greatest chances of success. Although he would have removed the calculus in this case, had he discovered it, he was exceedingly doubtful as to what the result of the operation would have been. The patient's age, and the structural changes in his tissues, as revealed by the post-mortem, would have made the chances of success very small; and, besides, so far as experience went, there was no recorded success from such an operation. The first operation which was undertaken for the removal of a gall-stone was performed in 1879, by Mr. Bryant, at the end of seventy-two hours after the occurrence of obstruction. The patient died eight hours after the operation, in consequence, it was said, of its not having been resorted to early enough. It was also done by another surgeon about the same time. The patient died very shortly after the section was made. Dr. Sands was extremely doubtful whether the percentage of recovery after laparo-enterotomy for gall-stone would ever exceed, or even reach, that recorded by Duchaussoy; but where the cause and location of the obstruction could be determined, he should recommend abdominal section and the removal of the gall-stone as the proper course of treatment.

The CHAIRMAN asked whether in any of these cases there were any early symptoms pointing to the passage of the stone through the ductus choledochus.

Dr. SANDS replied that there might have been in one or two of the cases, but such was not the rule. The stone usually found its way into the intestine through an artificial opening caused by ulceration.

The CHAIRMAN remarked that he had met with two cases in which death occurred during retention of the stone in the ductus choledochus.

Dr. DRAPER remarked that careful inquiry was made into the early history of this case with regard to the occurrence of hepatic colic, but there was no evidence that the patient had ever suffered from the passage of gall-stones.

Dr. H. F. WALKER said that about five years ago he had a case of obstruction of the intestine from gall-stone in which the patient recovered. The length of the stone was three inches and a half, but its short diameter was less than in this one. The patient gave the history of an attack of acute peritonitis the year before. The obstruction was attended by violent vomiting, the matter vomited being of a stercoraceous character. It continued for five days, when it suddenly

ceased on the occurrence of free fecal movements. At this time the cause of the obstruction had not been diagnosticated. The day following the patient complained of irritability about the rectum, and a desire, with inability, to have a movement. Dr. Walker was obliged to relieve him manually of a mass within the rectum, which proved to be the gall-stone. Dr. Walker supposed the acute attack of peritonitis a year previous was caused by the passage of the gall-stone through an ulcerated opening into the intestine; that it remained there, innocuous as regarded obstruction, nearly a year, and then obstruction came on suddenly and was complete.

Dr. ALONZO CLARK said that in a case which he witnessed, and, he believed, made the autopsy, some years ago, the lady died of peritonitis, and a large abscess was found immediately below the liver, bounded by the liver above and by adhesions of the intestines below and laterally. The sac would contain probably a quart of pus. The inflammation had extended to the general peritonæum. In removing the pus from the sac in which it was contained, at the bottom of it a biliary calculus was found, very black on the exterior, somewhat angular in shape, perhaps two thirds of an inch in its diameters. The interpretation of the case at the time was, that this large calculus had attempted to make its way from the gall-bladder into the intestine in the way which had been described to-night, and that, the ulcerative process not affecting the intestine, it had dropped into the space immediately below the liver; that it had there produced the abscess, and the abscess in its turn had produced inflammation which spread over the whole of the peritonæum. It occurred to him that these stones, after lying in the intestine some time, might become covered over with calcareous matter. Some of the gentlemen would remember a concretion found in the intestine by Cruveilhier, which, perhaps, was more than six inches long, and of a diameter considerably greater than the ordinary size of the small intestine. It was impossible for it to be expelled, and it was found after death. It was made up almost entirely of calcareous matter, and had doubtless been many years in forming. With regard to the disposition in certain substances in the intestine to become covered with calcareous matter, he could refer to an instance in a child who had perforation of the vermiform appendix. The substance which had caused the ulcerative process leading to perforation was a rounded concretion, which was very hard, and, by permission of the attending physician, he took it home with him and made a careful examination of it. It was made up of alternating layers of calcareous and fecal matter. The outside layer was hard and resisting, and effervesced on adding an acid; under that was a layer of fecal matter, and probably nothing else; then a layer of calcareous matter—and so on, alternating, there being in all five rings. The central point was a strawberry seed.

Dr. J. T. METCALFE said that about thirty years ago he attended a German, fifty years of age, who had been ill a long while with pain in the abdomen and vomiting. All of the physicians who had seen him thought he had cancerous disease of the stomach. When Dr. Metcalfe saw him he was very much emaciated, the vomiting and pain persisted, and the bowels would not move. The vomiting was not stercoraceous. A tumor could be felt distinctly at the pylorus, which he believed to be a cancer. The patient died, and at the autopsy there were found a large number, perhaps as many as twenty, of large and small gall-stones just outside of the duodenum, the facets on which showed that at one time they had been in apposition in the gall-bladder. They were composed of

very nearly pure cholesterine. There was no cancer at all, nor was there a gall-bladder that could be made out. It had been destroyed by ulceration, and the calculi had formed a nest for themselves near the pylorus. Everything about the proximal end of the duodenum had been bound together as a result of local peritonitis, and the duodenum was so narrowed that the contents of the stomach could not pass. The color of the skin was rather that of cancerous cachexia than of jaundice. The case was interesting to him at that time because of the failure of diagnosis on the part of all the physicians who saw the patient, and they were many.

Dr. FRANCIS DELAFIELD remarked that, notwithstanding the history in Dr. Draper's case would seem to point to the very recent passage of the calculus from the gall-bladder into the intestine, the outside appearance was not that of a biliary calculus, and the history would be more complete if the stone were sawn open and examined.

Dr. F. N. OTIS said he had a case to narrate, which, however, was not among the fatal list. The patient, a gentleman, last year had an attack apparently of ordinary biliary colic, which continued for nearly twenty-four hours. He had had several attacks before. Previous to the present one he had had several passages from the bowels, accompanied by pain and vomiting, two symptoms which became greatly increased as it became evident that there was some obstruction in the intestine. Salines were first administered. A large amount of morphia had to be given to keep the patient quiet and relieve him of pain. When an obstruction was suspected an O'Beirne's tube was introduced. A considerable amount of faecal matter was removed, but the symptoms did not abate. About two quarts of warm gruel were injected, with the tube inserted its whole length, without result, but at the second application there occurred sudden gurgling and almost immediate relief from pain and vomiting, and not a great while afterward there was a full faecal discharge from the bowels. He supposed the case was one of intestinal intussusception, relieved suddenly by distension from the gruel on about the third day. The vomiting had not been stercoraceous.

Dr. R. F. WEIR, who arrived late, also referred to Mr. Bryant's case, and to another reported by Dr. Arnison, in a recent number of the "*British Medical Journal*," in which there was an oblong tumor on the right side of the abdomen, which was supposed, from the symptoms present, to have been the seat of intestinal invagination. It was cut down upon, and on opening the mass, which was situated behind a coil of intestine, a quantity of blood was removed, in which was a biliary calculus of considerable size. There had been a history of hepatic colic. The patient died, and at the autopsy the gall-bladder was found not to have ulcerated into the duodenum, but into the subperitoneal tissues, and to have injured a branch of the hepatic artery, which was the source of the hæmorrhage. His own experience with severe intestinal obstruction within the past year comprised four cases, two of which proved fatal. One of the fatal cases was that seen with Dr. Draper. The second one he saw with Dr. Weber. It was in a young Spaniard, who had had, when he saw him, symptoms of acute intestinal obstruction for several days. He supported the opinion of Dr. Weber, that laparotomy should be performed, although neither the cause nor the position of the obstruction could be determined. The patient was etherized, but symptoms of exhaustion appeared so markedly that the operation was desisted from. The patient did not rally, but died a few hours later. At the autopsy a portion of the intestine was found incarcerated in an abnormal mesenteric opening in such

a way that it would have been extremely difficult to discover had laparotomy been performed. The other two cases of obstruction were severe, and were instructive because the patients recovered. One of the cases might throw some light on the question whether fecal vomiting could be associated with a removable obstruction, such as an accumulation of fecal matter. The patient, a woman, had suffered from intestinal obstruction for three days when we saw her, and during the last twenty-four hours there had been stercoraceous vomiting. Dullness existed in the right hypochondriac region. The physician who summoned him in consultation said that, in consequence of the administration of opium within the past twenty-four hours, the temperature had decidedly fallen. No other symptoms were present; no tenesmus; nothing could be felt *per rectum*. There was considerable abdominal distension. Large enemata, which had been given, were continued, as the prompt subsidence of the temperature under the use of anodynes was looked upon, from a considerable experience, as somewhat indicative of fecal accumulation; and in the course of forty-eight hours she began to have dejections, the symptoms ameliorated, and she recovered. In the other case a man had had symptoms of obstruction for four days, and within the last twenty-four hours of that time the matters vomited had become stercoraceous. An obscure tumor was felt in the right inguinal region, at the site of an old hernia. The hernia, however, had not descended for a long time before. The symptoms were so urgent that the question of laparotomy was seriously entertained by Dr. Markoe and Dr. Sands, who saw the case with him. They waited a few hours, however, to temporize with the case, and during that time the symptoms began to amend, the vomiting became less frequent, large injections were resorted to, a stool was obtained, and the patient recovered. Such cases as these made us hesitate about operating early (as we should do, to obtain the best results) in cases which demanded it, as shown by the subsequent history. Patients died in cases of intestinal obstruction, not from peritonitis, for that was of rare occurrence, but from sudden collapse or exhaustion. Of ninety-two cases given by Larguier, in only eighteen was there peritonitis. Dr. Weir thought that the division into acute and chronic intestinal obstruction was a misleading one in practice. The so-called chronic obstruction, as from stricture, etc., might give rise to all the signs of an acute obstruction, such as pain, distension, and fecal vomiting. We should rather endeavor to distinguish between obstruction in the small intestine and that in the large intestine. Duchaussoy found that, of 500 cases of obstruction, 134 occurred in the large intestine, and, deducting from this number that of cancerous affections, there remained fifty or sixty due to fecal or other masses. One of the chief questions for the future was, therefore, to determine whether the obstruction was located in the large or in the small intestine; and, in order to settle this point, and decide whether it were proper to perform laparotomy, excluding the clearer cases where a tumor existed, he should, after pain, distension, and especially fecal vomiting had been present a short time, say forty-eight hours, proceed at once to etherize the patient so as to make (what could not otherwise well be done) a careful examination by thorough palpation of the abdomen, and by the introduction of a small-sized hand into the rectum. The question as to the seat of the obstruction being in the large intestine might be determined without making such extensive manipulation with the hand in the rectum as was sometimes spoken of, for in most cases of obstruction of the lower bowel it was only necessary to ascertain the condition of the cæcum, which could be effected by the mobility of the rectum

allowing of the excursion of the hand sufficiently without passing it through the sigmoid flexure.

Dr. METCALFE asked with regard to the dangers of explorative incision. He had felt with Dr. Sands and Dr. Weir regret for not having operated when at the autopsy it was found that the cause of obstruction and death was simply mechanical, and that it could have been removed by operative means. In one instance, which occurred in Bellevue Hospital, forty-one inches of large and several loops of small intestine had passed through an opening in the mesentery and were strangulated. In two others the obstructive cause consisted of trifling, thread-like bands, but sufficiently strong to cause strangulation. He had been much surprised at the great tolerance of the intestines to manipulation in the hands of the ovariologist, and in view of this fact he asked if it was not the surgeon's duty to his patient in many instances to open the abdomen and search for the cause of intestinal obstruction.

The CHAIRMAN remarked that the great majority of cases of intestinal obstruction which were not relieved by cathartics within twenty-four hours proved fatal.

Dr. FLINT said, with reference to Dr. Metcalfe's question, that a very interesting case had been reported in a late number of the "*Transactions of the Clinical Society of London*." The case was one of intestinal obstruction. A large incision was made into the abdomen, revealing what was supposed to be the cæcum enormously distended. The small intestines were also very tympanitic. They were all taken out of the abdominal cavity and covered with a flannel wrung out of warm water, for protection. A large trocar was introduced into the cæcum, and a very large quantity of fecal matter was removed. The flannel which covered the intestines was found to be new, and, when removed, its filaments adhered to them. Moreover, there were cracks in the peritoneal coat of the intestine in several places. These were stitched up, and the incision in the abdomen was closed, a tube being left in the cæcum. Fæcal matter continued to pass through the tube several days, but the healing process went on perfectly well, and after a short time the patient passed feces by the natural channel. The cause of the obstruction was never discovered. The patient recovered.

The CHAIRMAN remarked that he had seen the statement that, out of forty-two cases in which an artificial anus had been made for gangrene of the intestine, there had been only three deaths. The proximal portion of the intestine had been united to the abdominal parietes. [See the "*Medical Gazette*," March 2, 1833.]

Dr. WEIR said, with regard to Dr. Metcalfe's question, that operating for the removal of ovarian tumors, etc., as was done by the gynecologist, was considered by the general surgeon to be a somewhat different matter from operating for the relief of intestinal obstruction, etc. In the former case the peritonæum had become accustomed to the presence of a quasi-foreign body, and was more tolerant of exposure and manipulation; moreover, in the latter case the patient's condition was one of greater exhaustion and shock. Still, the wonderful success obtained by the gynecologist in operations for the removal of tumors, etc., from the abdominal cavity, and especially the extraordinary success obtained recently by French and German surgeons in the removal of portions of the intestine of varying length, etc., should encourage us very much in operations involving the peritoneal cavity.

Dr. METCALFE had always thought the great danger of opening the peritoneal

cavity was to a large extent traditional and overestimated. His teacher forty years ago at the Pennsylvania Hospital, Dr. Hodge, when lecturing on Cæsarean section, used to speak of this fear as largely traditional and groundless.

Dr. DRAPER remarked that it was a question in his mind whether, since this stone had reached to within eight feet of the cæcum, it might not have been possible to drive it on into the large intestine by peristalsis produced by active cathartics. These, however, had been tried in the early stage of the patient's illness, and, not suspecting the movable nature of the obstruction, it was thought that their further use would increase the perils of the situation.

The CHAIRMAN recalled one case of obstruction of a formidable nature, in which a swelling was felt on one side, which was relieved by croton-oil. He was called in consultation together with Dr. Buck, and the latter favored the use of the cathartic. The Chairman, though opposed to it, yielded to his views. Laparotomy had been taken into consideration. The cathartic relieved the obstruction. As a general thing, however, active cathartics, he believed, aggravated the condition, and probably hastened death.

Dr. DRAPER remarked that Dr. Van Buren's idea was that a new growth, probably cancerous, projected into the lumen of the intestine, and that back of it faecal matter had accumulated and so caused complete obstruction. The failure of the patient's health during the last few months, and the fact that he suffered more or less from an irregular condition of the bowels, lent some support to this idea.

Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY.

No. XVIII.

By ANDREW F. CURRIER, M.D.

OBSTETRICS.

1. SIMPSON, A. R.—Quarterly report of the Royal Maternity and Simpson Memorial Hospital, from 1st November, 1881, to 31st January, 1882. "Edinb. Med. Jour.," May, 1882.
2. MARIE, L.—Grossesse et parturition insolites. "Union Méd.," Apr. 6, 1882.
3. HUCHARD, H.—Coliques hépatiques et coliques néphrétiques de la grossesse et de l'accouchement. *Ibid.*, Apr. 18, 25, 1882.
4. PRICE, J.—On the importance of local treatment in congestion and inflammation of the cervix uteri in pregnancy. "Trans. of the Med. Soc. of the State of Pennsylvania," xiii, 2, 1881.
5. WHITWELL, W. S.—Treatment of abortion by hot-water injections. "Western Lancet," Apr., 1882.
6. TURNER, W.—Case illustrating the importance of accurate pelvimetry; with description of a new method. "Edinb. Med. Jour.," May, 1882.
7. GARRIGUES, H. J.—Denomination of the oblique pelvic diameters. "Am. Jour. of Obstet.," Apr., 1882."

8. MAIN, J. S.—On some points connected with the management of labor. "Glasgow Med. Jour.," Apr., 1882.
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10. OWEN, J. L.—Why chloroform is not contraindicated in labor with co-existing cardiac disease. "N. O. Med. and Surg. Jour.," May, 1882.
11. MACAN, A. V.—On nitrous oxide as an anæsthetic in labor. [Dublin Obstet. Soc.] "Dublin Jour. of Med. Sci.," Mar., 1882.
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18. KINNE, A. F.—On the prevention of delay in some presentations of the breech. "Obstet. Gaz.," Apr., 1882.
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20. YOUNG, P.—Vaginal enterocoele. *Ibid.*
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22. THOMAS, J. D.—A case of rupture of the lower segment of the uterus and of the vagina. *Ibid.*
23. MADDEN, T. M.—On the prevention and treatment of post-partum hæmorrhage. *Ibid.*
24. HENRY, R.—Four cases of convulsions occurring in the Rotunda Hospital. [Dublin Obstet. Soc.] "Dublin Jour. of Med. Sci.," Mar., 1882.
25. GREEN, W. E.—Nitro-glycerine in puerperal convulsions. "Brit. Med. Jour.," Apr. 22, 1882.
26. MACKINTOSH, E. Æ.—Mental excitement in the lying-in: its importance with regard to maternity hospitals. "Edinb. Med. Jour.," Apr., 1882.
27. STEDMAN, C. E.—A case of pulmonary embolism on the ninth day after delivery. Recovery. "Boston Med. and Surg. Jour.," Apr. 13, 1882.
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29. TAYLOR, I. E.—Ovarian pregnancy. "Illust. Quart. of Med. and Surg.," Apr., 1882.
30. LANDIS, H. G.—A case of repeated extra-uterine pregnancy cured by galvanism. "Med. News," Apr. 8, 1882.
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32. BIRCH-HIRSCHFELD, F. V.—Die Entstehung der Gelbsucht neugeborner Kinder. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxvii, 1, 1882.
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3. M. Huchard publishes a series of observations upon *hepatic and nephritic colic of pregnancy and parturition*. The author was called in haste to a woman four days past delivery, suffering with sharp abdominal pains, vomiting, and slight chills. The diagnosis of peritonitis had been made, and proper

treatment therefor instituted. Examination revealed a slow instead of an accelerated pulse, coldness instead of heat of the skin, and an axillary temperature of 38° C. There was slight pain in the iliac fossæ, and in the left hypochondrium, no meteorism, but extreme hyperæsthesia in the right hy-

pochondrium as far as the umbilical region, and also in the vicinity of the end of the spine of the right scapula. The vomiting seemed to have relieved the pain. The patient had experienced three attacks of pseudo-gastralgic-hepatic colic during pregnancy, and this fact, together with the symptoms above given, led to the final diagnosis of hepatic colic. This was confirmed by the appearance of icterus the following day. She was placed under treatment for biliary lithiasis, and in two subsequent pregnancies there was no recurrence of the malady. — In a second case the patient was seized with pains quite similar to those of intercostal neuralgia, eight days after confinement. There were also obstinate vomiting and a furred tongue. The stomach trouble and apparent intercostal neuralgia so masked the more fundamental liver difficulty (there was no icterus) that an absolute diagnosis of hepatic colic was not fixed upon until after several attacks. — In a third case the patient was at the eighth month of pregnancy; severe pains came on, but no uterine contractions were manifest. The pain was unilateral, in the region of the left kidney, radiating into the left iliac region. There was little doubt that this was a case of nephritic colic. The patient went on to term, and was delivered without mishap. The experience of Depaul, Pinard, and Tarnier is then cited, as they had seen a few cases similar to those narrated. Questions suggested by these cases are: 1. Is there really a relation of cause and effect between pregnancy and the production of hepatic or nephritic colic? 2. If this relation has been demonstrated by examples, how is it to be explained? 3. Since treatment is always the end of clinical observation, what should be the therapeutical conduct in these cases? The answer to the first question is affirmative, cases being brought forward in proof where in successive pregnancies the same, or nearly the same, series of phenomena was observed respecting hepatic colic. Pregnancy and accouchement are often the point of departure for hepatic crises. As to the pathogenesis of the disease, the conclusion is that errors of diet and regimen, a sedentary life, the suppression of lactation, and the compression of the liver, play a secondary rôle. The predisposing and capital cause is always the arthritic diathesis, the phenomena

being called into action by the pregnant or puerperal condition. For treatment, it is necessary in the first place to quiet the pain, and the best means, says the author, is, and always will be, a hypodermic injection of morphine. The biliary lithiasis must be combated by rational hygienic treatment, and M. Villemain advises the use of Vichy waters, not considering that pregnancy is a contra-indication for such treatment. Everything should be avoided which would tend to provoke miscarriage.

6. Dr. Turner reports a case illustrating the importance of accurate *pelvimetry*, with a description of a new method. The patient was twenty-three years of age, was pregnant for the second time, and had already been in labor six hours, the waters also having escaped, when she was admitted to the hospital. Her previous labor had been of three days' duration, a dead eight months' child finally being born, with head presenting, without recourse to instrumental aid. The patient was slender, 5 feet 3 inches in height, and both rickety and strumous. The external conjugate diameter of the pelvis measured $6\frac{1}{2}$ inches, the distance between the anterior superior spinous processes was 11 inches, between the iliac crests also 11 inches. The uterine tumor was unusually elongated. The head was fairly defined, but had not engaged at the brim of the pelvis. The sagittal suture lay in the transverse diameter, the greater fontanelle being the most accessible part. Careful examination under chloroform led to the conclusion that there was a true conjugate diameter of $8\frac{1}{4}$ inches. As there was a good amount of space at either side, as the pelvis was of the flat variety, and as the history of the previous labor was as has been described, version was decided upon, and performed without difficulty. The head engaged in a transverse position, and obstinately resisted all efforts at removal for eight minutes. Finally, the pendulum movement being exercised, and the body of the child being carried high up on the pubes, the head quickly slipped through the brim, and was born. Respiration could not be established; the head was larger than normal, and greatly distorted from the force to which it had been subjected. Upon careful dissection, no serious lesions were found as the result of the force used. The mother died on

the eighth day, from peritonitis, the autopsy revealing a great quantity of inflammatory exudation, the uterus extending half way to the umbilicus, and the cervix with two extensive vertical rents in its anterior lip. The measurements of the pelvic brim were: true conjugate $2\frac{1}{2}$ inches, transverse $5\frac{1}{4}$ inches. The estimated measurement of the conjugate differed from the reality by $\frac{3}{4}$ of an inch. Had this been known beforehand, either abdominal section or craniotomy would have been chosen in preference to turning. The ordinary method of calculating the true conjugate diameter is too inaccurate, viz., measuring with the forefinger from the promontory of the sacrum to the angle formed by the union of the pubic bones, as the diagonal conjugate, and then subtracting as much as you like, and calling the remainder the true conjugate. To remedy this evil, the author has proposed a method of pelvimetry the applicability of which depends upon the fact that the superior border of the symphysis pubis is a line which can usually be carefully defined. An arm of an ordinary Baudelocque calipers is made use of. It is introduced into the vagina and its probe-point made to touch the promontory of the sacrum. At the joint of the instrument a small wire hook is fitted, and a measuring tape attached to it. The distance to the upper margin of the symphysis pubis is then taken, the tape and the straight shank of the instrument being kept in parallelism. The distance from the extreme end of the handle to the probe-point is next taken, and the previous measurement deducted; the remainder will be the true conjugate diameter of the pelvic brim.

25. Mr. Green has been using *nitro-glycerine in puerperal convulsions* with good results. Two cases are narrated; in the first the patient was a primipara, and the convulsions came on suddenly during labor. They had continued an hour when the accoucheur arrived. Delivery was quickly effected with the forceps, and, though the convulsions did not recur, unconsciousness, general œdema, and quick pulse with high tension were present. Eight minims of nitro-glycerine were then added to an ounce of water, and a teaspoonful of the mixture was ordered every hour. Within ten minutes after the first dose was taken consciousness returned; and after four or five doses had been taken

the character of the pulse was quite natural, the patient being in a very comfortable condition. The urine contained a large amount of albumen, and it was not until six weeks afterward that this had disappeared. The patient continued to convalesce very slowly until the infant was weaned, after which she soon became well. The author was led to use the nitro-glycerine because of the experience he had had of its power to reduce arterial tension in angina pectoris. If, as is asserted, uræmic eclampsia is due to cerebral anæmia, joined with œdema of the brain tissues, it is possible to understand how the action of nitro-glycerine may cause dilatation of the arterioles, and so a lessening of arterial tension. To the same class of remedies may be added chloral, chloroform, opium, dry and moist warmth, purgation, and bleeding, all of which have been used in puerperal convulsions.

26. Dr. Mackintosh's article on *mental excitement in the lying-in*—its importance with regard to maternity hospitals—is intended to exclude actual mania and “such cases as more usually come under the notice of the general practitioner.” Hereditary tendency or an overwrought nervous system may have caused the disorder of the mind, and this is most likely to have occurred either immediately after labor or within a few months after that event. The sufferers come chiefly from the hard-working classes, and the elements of shame and disgrace often prove to be potent factors in retarding recovery. Five typical cases are given, such as the author was accustomed to see in the Maternity Hospital at Glasgow. The first, an hypothetical case, is that of an unmarried woman, who, realizing her degraded situation, after the rest and sleep following the pains of labor, weeps and becomes greatly excited. Her temperature becomes elevated, her pulse frequent. Possibly these symptoms are communicated to the rest of the inmates of the ward. Afterward the discharges may become putrid, or may disappear, and, if the patient gets well, it is after a lingering convalescence. The second case was that of a young unmarried primipara. Following the delivery she became quite feverish, with a temperature of 102.6° F. The cause was found to be the recognition of a patient from her district in the ward. After isolation the excitement abated, but with the reaction came offensive discharges, irri-

table stomach, and pain. These were effectually antagonized, and the patient gradually recovered. — The third case was that of an unmarried primipara forty-five years of age, by occupation a Bible-reader. The labor had not been as severe as was anticipated, but great excitement followed the recognition of a visitor to the hospital, a few days after its conclusion. Careful diet and nursing, and the expression of sympathy, accomplished her cure. — The fourth case was that of an unmarried servant-maid, taken with labor-pains in the street, and brought to the hospital by a policeman. She did poorly for some time after delivery. The facts in the case were that she was from a respectable family, and was to have been married a few days after she was taken sick to one who was not the father of the child, and who was ignorant of her condition. After her friends found her, and reconciliation took place, she began to improve, and was removed to her home as soon as possible. — The fifth case was also that of an unmarried primipara, deserted by her betrayer, who had promised to put her in the Maternity Hospital, and marry her after her delivery. She showed no tendency to improve after her confinement, and yet there were no positive symptoms. After ten days she died, overcome, apparently, by mental strain. No line of treatment was suggested by the author; it must correspond to the requirements in each particular case.

28. Mr. Bracey reports a case of *strangulated umbilical hernia after parturition*. The patient was confined at nearly full term with her twelfth child. She had also had one miscarriage. The labor was natural, and the patient was suffering with a severe attack of bronchitis at the time. The binder was securely placed over a very flabby abdomen. About thirty hours after the accoucheur left her he was recalled, and found an umbilical hernia of the size of an orange, and nearly black. This was reduced with difficulty, and a firm pad was placed

over the ring. The following day a more carefully prepared pad was applied, but the surgeon was recalled on the next day, and the patient was found with the gut protruding, and with all the symptoms of strangulation. Efforts at reduction failed of success, and a cutting operation was done, the protruding omentum and bowel being readily returned after the accidental bursting of the sac. The wound was then closed with silk sutures, and a pad, plaster, and bandage were applied. The case progressed very favorably, though the cough continued to be troublesome. Nineteen days after the operation the patient was allowed to get up, wearing a truss with a conical ivory center-piece an inch and a half in diameter at the base, placed at the center of a flat pad six inches in diameter.

31. Mr. Thornton reported, at the meeting of the Obstetrical Society already referred to, a case of *extra-uterine pregnancy treated by antiseptic abdominal section*, with removal of the fœtus and the hypertrophied placenta, ending in recovery. He divided cases of extra-uterine pregnancy into three classes: 1. Those in which accurate diagnosis was possible. 2. Those in which probability but not certainty of diagnosis could be reached. 3. Those in which the nature of the case was not suspected until internal hæmorrhage or other untoward accident took place. In the first and third classes operation was demanded; in the second class an exploratory operation should be done, if the symptoms were urgent. These operations should be strictly antiseptic, and should be performed by one who has had experience in abdominal surgery, as they are very difficult. — Dr. South maintained that a diagnosis of extra-uterine pregnancy was warranted when there was a growing abdominal tumor, and when a decidua was cast off through the vagina. — Dr. Rogers said that the placental souffle was more marked than the souffle heard over fibroids. The presence of milk in the breasts would also assist in the diagnosis.

GYNÆCOLOGY.

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4. Dr. Muscroft has recently devised and performed a *new operation for closing the vulva in incurable cases of vesico-vaginal fistula*. The patient upon whom the operation was performed was a primipara twenty-three years of age, who had been delivered of a dead child after a severe labor of three days' duration. The result had been a vesico-vaginal fistula, and separation of the urethra from the bladder. The vagina was much contracted, and the buttocks and thighs were excoriated by the action of the urine. General treatment and bougies were tried for some time, and after the lapse of nearly a year from her entrance into the hospital, where she came under the author's notice, an unsuccessful attempt was

made to attach the remnant of the urethra to the bladder, which was followed by further sloughing of the urethra. About four months later, as her condition was unimproved, the author decided to close the vulva, leaving an orifice for the escape of the urine at its posterior commissure. The anæsthetic used was chloroform. The mucous membrane was removed from the labia majora, the clitoris and the nymphæ were excised, and the opening was closed with five sutures of polished annealed steel wire. The thighs were bound together, and a solution of sulphate of iron, of the strength of half a drachm to a pint of water, was applied externally by compresses, and injected into the vaginal and pelvic cavity. The

sutures, with the exception of the one nearest the outlet, were allowed to ulcerate away. The urine escaped constantly for a time, but by degrees the opening contracted, and the patient began to have control of the urinary discharge. When she was discharged from the hospital she had retentive power for two hours at a time. The clitoris was removed, because the operation was thought to be *neater* by this procedure, and more likely to succeed, and because it might have a tendency to repress venereal desire. The patient's general health was very good when she was allowed to go home. [The paper, of which the foregoing is an abstract, was read before the Cincinnati Academy of Medicine, and called forth some deservedly adverse criticism. It is a step backward to resort to mutilations like this, in view of the careful and successful operations of Emmet, Bozeman, and others, in the worst possible cases of fistula.]

8. Dr. Palmer writes of *so-called mechanical dysmenorrhœa*. Normal menstruation, he maintains, is painless, notwithstanding the statement of Emmet to the contrary. Simpson believed in the obstructive origin of the difficulty, though not exclusively; Sims says all painful menstruation is obstructive; Thomas takes the broad ground that the trouble may be due to some abnormal condition of the uterus, ovaries, or other pelvic tissues—the uterus itself need not be the offending organ; Barnes thinks the cause is mainly mechanical; Grailly Hewitt inclines to the same view; Atthill rejects it; Duncan rejects it decidedly; and Emmet believes that the affection is caused by defective nutrition beyond the uterus. Congenital and acquired abnormalities of the cervix with stenosis are common enough, the stenosis being most frequent at the external os. The mechanical theory would seem to be sustained from the fact that dilatation and incision often give a certain amount of relief. The pains may be like the expulsive pains of labor, the uterus evidently trying to dispose of its contents. The reasons which the author gives for objecting to the mechanical doctrine are, in general, “*a want of uniformity between the seeming causative lesions or abnormalities and the manifestation of symptoms.*” In particular, instances of the trouble exist where the pain varies as to seat, time of occurrence, and duration, and where no

abnormal condition of the pelvic organs can be made out. Abnormalities are often found with no coincident dysmenorrhœa. Stenosis of the os and cervical canal occur, associated with dysmenorrhœa, where operation relieves the former, but not the latter. A patulous canal does not necessarily signify absence of dysmenorrhœa. The author thinks that the difficulty under discussion is a functional disorder of the uterus, and in its nature a neurosis. The cause may be local or general.

10. Dr. Alexander proposes a *new method of treating inveterate and troublesome displacements of the uterus*. Operations for these troubles, he says, are a last resort when all appliances have failed, or to obviate the disagreeable necessity of wearing a pessary. He speaks almost solely of those forms of displacement which are accompanied with prolapse. One of the chief agents concerned in such a displacement is the round ligament. The anatomy and function of this are very clearly and accurately described, the description following Quain. Since, in a condition of prolapse, this ligament, on either side, is stretched, replacing the uterus does not at once restore the normal tone of the ligamentous tissue, or, to copy the author's idea, there is a *slack* in the ligaments which prevents them from giving the proper *quantum* of support. He proposes to remedy this by an operation to “pull out the slack of the round ligaments.” The idea is entirely novel, and we reproduce the author's description. “The operation is performed by cutting down upon each abdominal ring, gathering up the ends of the ligaments, freeing each from its nerve, and gradually releasing them, by patient and cautious traction, from the neighboring tissues, until the position of the uterus, as ascertained by the finger in the vagina, satisfies the operator. The ligament is then stitched to the tissues around the ring, and the loose ends attached to each other, or rolled around two pieces of wood which are fastened together in the middle line. The picking up of the ends of the ligament is the difficult point, and the freeing of the ligaments from their surroundings is the delicate point, but, by experience, both can be performed easily and effectually. The ligament slides within its sheath, and the peritonæum is not disturbed. No risk of hernia or

of pelvic inflammation occurs. Beyond some pain for the first few days, the operation is harmless, if carefully performed, but experiments on the dead subject have shown me that danger may arise from incautious operators." Four cases are detailed in which this operation was performed. In the first, the patient being thirty-eight years of age, the cervix presented external to the labia. The operation for narrowing the vagina was first done, and, though that operation was successful in accomplishing the end referred to, the tension upon the bladder and rectum was not relieved. Two months and ten days after the first operation that upon the round ligaments was performed. Two inches of the *slack* in each were pulled out and cut off, and the ends were stitched by catgut sutures to the boundaries of the wounds. The wounds healed kindly, and there was not much accompanying pain. The cure was satisfactory, the uterus being firmly held in the position to which it had been drawn at the time of the operation. Pregnancy is not probable after this operation. Should it occur, three consequences are possible: 1. The uterus might not be able to rise into the abdomen, and abortion would take place. 2. The ligaments might give sufficiently to allow the uterus to rise, and then retract after parturition. 3. They might fail to retract, and prolapse would recur. The author thinks the main object has been attained when cohabitation becomes possible, and that his operation is likely to secure this end. — In the second case the result was the same as in the first. Bronchitis induced by the ether inhaled at the time of the operation caused recovery to be slower than usual, more painful on account of the strain from coughing, and healing of the wound to take place by granulation. Where there is a tendency to bronchitis, chloroform anaesthesia is recommended during the operation. — In the third case the patient was cured without complications. — In the fourth, obstinate retroflexion was the cause for which the operation was done. Only one of the round ligaments was properly caught up, and the uterus was held in position by this, the retroflexion being quite cured. In this last case, and in another not here described, there had been difficult and painful menstruation, which was relieved by the operation. Before operating upon the living sub-

ject the author recommends experiments upon the cadaver.

16. Dr. Goodell has investigated the subject of *Batley's operation in its relation to insanity*, and publishes his views in the "American Journal of Insanity" for the first quarter of 1882. Oöphorectomy is justified in certain cases, to bring on the climacteric, when no intrinsic disease of the ovaries exists. Justifiable causes are fibroid tumors of the uterus, chronic pelvic peritonitis, persistent oöphoritis and oöphoralgia, ovarian epilepsy, dysmenorrhœa, menorrhagia, and some others, including some forms of insanity. He quotes Esquirol and Morel to the effect that derangements of menstruation are accountable for one sixth of the cases of insanity due to physical causes. On the plea of expediency he thinks the operation should be more frequently resorted to with the insane, the points or reasons being: 1. An insane woman, like a criminal, is without the body politic. 2. Her death would be a relief to her dearest friends. 3. Even should she recover from her mental disease, no operation having been performed, insanity may reappear in her offspring, more or less remote. He then makes the broad statement, worthy of a disciple of Malthus: "I am indeed not sure that in the progressive future it will not be deemed a measure of sound policy, and of commendable statesmanship, to stamp out insanity by castrating all the insane men and spaying all the insane women." Four cases are then narrated, in three of which the operation was done for this cause. In the first case the patient was violent for a few days before menstruation appeared, during its progress, and for several days after its cessation. Upon examination, a congested uterus, three and a half inches in depth, was found, with great tenderness in the left ovarian region. The ovaries were removed, and the patient recovered completely from the operation. The menstrual molimen continued to appear regularly for a year afterward, and then stopped. During this time she was under the immediate supervision of an alienist of large experience, the insanity continuing, but in a less intense degree. With the disappearance of menstruation the mental phenomena also ceased, and a year later she continued to be perfectly well, performing all her household duties. — In the second case the patient was bedridden, suffering intense

pain from a chronic oöphoritis in addition to the mental disturbance. Menorrhagia was also very pronounced. The ovaries were removed, and with difficulty, on account of the adhesions resulting from chronic pelvic inflammation. The patient recovered entirely from the operation, and was greatly benefited by it, with prospects of complete recovery in body and mind.

===== The third patient was insane about half the time—that is to say, before, during, and after menstruation. Battey's operation was performed, but the mental phenomena were only partially relieved. The surroundings of the patient were very bad in every way; still the doctor did not despair of a possible recovery in the future. ===== In the fourth case the ovaries were not removed. Both of them were prolapsed, as was also the uterus. A Hodge pessary was fitted, which not only kept the organs in proper position, but so modified the mental symptoms that it was thought advisable to defer the operation until a more urgent call for it should arise. The author advises the operation by abdominal section, except in cases where the ovaries are so low as to be readily reached by the vagina.

17. At the April meeting of the London Obstetrical Society Dr. Braithwaite reported two cases of *unilateral vaginal oöphorectomy*. The first patient suffered greatly from dyspnoea. She had a mi-

tral murmur, and was in very bad general condition. Menstruation was normal, and there was an exquisitely sensitive prolapsed ovary. The diagnosis was that the dyspnoea was cardiac, but excited by the prolapsed ovary. The ovary was removed, and great improvement followed. The second patient was a hysterical married woman, twenty-two years of age, with almost constant pain in the left ovarian region, dating from the birth of her first child, three and a half years before. The left ovary was prolapsed and tender, and was removed, the cure of the painful condition being complete. ===== In the discussion following, Dr. Barnes stated that Battey's operation had now emerged from the domain of experimental surgery, and that we should soon arrive at definite conclusions as to the scope of its application. The left ovary seemed to be more prone to prolapse and disease than the right. ===== Dr. Heywood Smith repeated Battey's assertion that when only one ovary was removed the pain for which it was removed was likely to recur. He thought the abdominal operation preferable in single women, and that the incision should be three or four inches in length. ===== Mr. Thornton believed in the great value of the operation in cases of severe hæmorrhage caused by fibroids. He thought the abdominal operation the safer.

QUARTERLY REPORT ON OPHTHALMOLOGY AND OTOTOLOGY.

No. X.

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2. In a preliminary paper on the *determination of a standard of color-sense for reflected color by daylight*, Oliver gives the following rules for examination: 1. Choose young, healthy, intelligent male students, possessing normal vision for form. 2. Expunge the possibility of color-blindness by previous

examination with Holmgren's skeins of worsted. 3. All the subjects are to be placed in the same condition in reference to position, light, and time of day. 4. First examine the color-perception, then the accommodation, and, lastly, make the ophthalmoscopic examination. 5. Each subject must be examined sep-

arately. 6. Use a color-sense measure so contrived as to give exact and mathematical increase of reflected color. Oliver found as the result of his observations that: 1. The standard of quantitative color-perception for reflected red by daylight at five metres is $2\frac{1}{2}$ millimetres. 2. Same for green is $10\frac{1}{2}$ millimetres. 3. Same for violet is $22\frac{1}{4}$ millimetres. 4. Same for blue is $8\frac{1}{2}$ millimetres. 5. Each color passes through a regular series of changes before being correctly seen. 6. All other conditions being equal, no two individual eyes possess exactly the same amount of quantitative color-perception for reflected color. Hence, a standard of color must be used.

4. Gorham, in an article on *the blending of colors by the sole agency of the sensorium*, arrives at the conclusion that when one retina is fully impressed with the sensation of a given color, and the other retina feebly illuminated with white light, a current of color is set up between the two eyes, and that this current is propagated from that eye which receives the most light toward that which receives the least, and, moreover, that which is transmitted to the left eye is first the complementary, and then the color itself, of that which impinges on the right retina.

5. Berry presents a *practical instrument for testing the light-sense*, which is, however, defective physiologically in that it does not altogether avoid the difficulty of adaptation, and further in not discriminating properly between a diminution of the light-sense proper and a diminution of the power of distinguishing between different intensities of light, which condition he supposes to be a distinct pathological process. The apparatus consists of a hollow prism, forty centimetres in length and forty millimetres in breadth at its base, mounted on a stand so as to be capable of being used in any position. The prism is filled with finely divided Indian ink suspended in water, to which a little glycerine and carbolic acid is added, which renders the suspension more complete and permanent, and prevents clotting or decomposition. The mixture is chosen of such a density that, on looking through the thickest end of the prism on a bright day, the normal visual acuity is reduced to about $\frac{2}{200}$. As the particles are liable to settle somewhat after a time, the contents must be shaken every now and then, and, if at

any time it is necessary to change the fluid, the same density may easily be got by a single photometric test with a standard candle. A black screen, with a slit half an inch in width, is movable in front of the prism, opposite any portion of which the slit may be placed. Along the top of the prism is a scale marking in millimetres the thickness of the fluid. One centimetre in length corresponds to an alteration of one millimetre in thickness. In using this apparatus no one particular thickness of the light-absorbing medium is taken as the normal point of departure, but the screen is *at every examination* placed so that the slit is opposite a portion sufficiently dense to allow *the smallest amount of light* to pass with which the observer retains his full vision. The reading is then taken for this position from the edge of the slit opposite the thinnest part of the prism. The visual acuity of the patient is then taken for the same position and noted; if it is below the acuity obtained by the ordinary examination in a good light, the screen is moved along toward the apex of the prism to the position which just admits of his full vision. The two positions then give the vision with light just sufficient for the attainment of full vision by the normal eye, and allow of a comparison between that amount and that which is just necessary for the greatest acuity of the patient's vision.

6. Raehlmann gives the result of his investigations into *the optical effect of hyperbolic glasses on keratoconus and irregular astigmatism*. He considers that their greatest effect is in the widening of the visual field, while at the same time they improve the central vision. This is as well for the near point as for the far point. Besides this, there is a perceptible increase in the size of the objects fixed which admits of the easy accommodation for the ordinary reading distance. He gives the result of the examination of fourteen cases of conical cornea and irregular astigmatism.

14. Testut has made some investigations as to *the mode of cicatrization of the tendons after tenotomy for squint*, and draws the following conclusions: The tendon becomes attached in its new position principally to the sclerotic, and secondarily to the conjunctiva, by fibrous prolongations. The whitish band, which reunites the two extremities of the divided tendon, is formed partly by the cellular tissue which unites

the sheath of the tendon to the eyeball, and partly by the new cells formed by proliferation from the divided tendon. The origin of the little fibrous pad at the extremity of the divided pad is due to a reunion of connective-tissue cells furnished by the sheath.

16. White reports a case of *tumor of the lachrymal gland*, which he removed through an incision made along the outer third of the edge of the orbit, just below the brow. It was found firmly attached to the periosteum and conjunctiva, and extended far back into the orbit, pressing upon the optic nerve. It measured an inch and a quarter in length and three quarters of an inch in breadth. Burnett, who examined it, calls it a myxo-adenosarcoma.

20. Gayet recommends the following *autoplastic operation for entropium*: For entropium of the external half of the upper lid he incloses the lid between the rings of Snellen's lid forceps, and then with a narrow knife he makes an incision in the tarsus just behind the ciliary margin throughout the entire length of the palpebral border that is to be rectified, making an oblique incision from tarsus to skin and passing behind the row of hair bulbs. The wound in the tarsus must be deep enough to give a raw surface of about four millimetres when its tips are separated. Then from its temporal end another incision of the same length is made to include all the skin of the lid parallel to the free border, and then complete this by another incision outward so as to circumscribe a narrow flap, which is afterward dissected up. In order that this flap may be sufficiently thick and well-nourished, it should include all the tissues down to the tarsus. By a slight twisting motion this flap is brought in to fill up the raw cilio-tarsal groove, and there fixed by a few sutures. If the entropium involves the inner or nasal part of the lid, the operation must be done in a reverse direction. If the entropium is total, and if all the lashes are inverted, Gayet thinks it better to do the two operations just described than to attempt to obtain a cure by involving the entire palpebral border in the autoplastic operation, on account of the danger of gangrene. It is better also to do the two operations with an interval of a few days between them. Gayet uses as a dressing silk paper impregnated with oil of eucalyptus, covered with lint and a light bandage; and this dressing is renewed on the first

or second day, according to the amount of discharge.

21. Teillais reports a rare case of *elephantiasis of the upper lids of both eyes* of a marked degree in a woman aged seventy-five, which he removed successfully. Both eyes were completely concealed from view by the tumors, which measured on the left side twelve centimetres long by nine wide, and on the right side seven centimetres long by six wide. After three days of continuous compression there was a perceptible softening of the tumors and a slight diminution in size. After one or two futile exploratory punctures with a Pravaz syringe, Teillais finally succeeded in withdrawing two syringefuls of a slightly thready liquid of a lemon-color, which soon coagulated. He proposed first to remove the tumors, and then, if possible, to restore the upper lids. On the left side he made a circular incision parallel to the eyebrow and about half a centimetre below it, which, carried backward, comprised a part of the distended conjunctiva. He then divided completely what passed for the pedicle or narrowest part of the elephantiasis. He then reunited the conjunctiva, which remained attached to the palpebral lamina, by eight sutures. On the right side he operated in the same manner. The result was excellent on both sides, though with the formation of a slight ectropium on the left side. Under the microscope the preparations proved to consist of dense layers of connective tissue, which were densest near the skin. In the midst of these fasciculi were seen groups of striated muscular fibers, blood-vessels, lymphatics, and nerves. The arteries showed all the signs of chronic arteritis ending in sclerosis. The lesion of the veins was a little different, and consisted in the production of a thick coat of embryonic cells around the vessel.

24. Galezowski describes *parenchymatous xerophthalmia* as arising spontaneously in the cul-de-sac and palpebral conjunctiva; vertical folds appear in the cul-de-sac, which extend from the tarsal border of the conjunctiva to the margin of the cornea and form a real symblepharon. At first narrow and isolated, they gradually grow broader, and extend all over the conjunctiva; the latter becomes more and more retracted, the edges of the lids approximate the corneal margin, and finally adhesion is

complete. Throughout the entire course of this disease the conjunctiva is lubricated as in the normal state, and only in isolated spots are patches of dried epithelium met with. The disease does not stop here, but the upper lid gradually covers more and more of the cornea, and the lower lid ascends and does the same, by reason of the contractile force of the fibrous tissue of the conjunctiva. The patients for a long period continue to see through a narrow horizontal slit between the lids, the center of the cornea maintaining its transparency. But gradually the epithelial surface of the cornea is invaded, the superficial layers become opaque, the lids become completely adherent to the globe, and blindness is absolute.

30. Pflüger has made some investigations into the *nutrition of the cornea*, and has demonstrated to his own satisfaction that in the cornea the nutrient current is directed from the periphery toward the center, and that the cornea is dependent for its nutrition upon the neighboring tissues, and not at all upon the aqueous humor. This nutrition comes from the sclera and the conjunctiva, the former nourishing the deeper layers, while the latter nourish the superficial layers of the cornea. In the cornea the lymph currents all meet at the center and dip down deep into the tissue. No centrifugal return-current exists in the cornea.

33. In speaking of *diffuse interstitial keratitis*, Panas thinks that the two most common causes are rickets and the lymphatic diathesis. Hereditary syphilis he regards as merely one of the many causes of constitutional exhaustion which lead to rickets. He denies that syphilis acts directly upon the cornea. He thinks that if parenchymatous keratitis were directly dependent upon hereditary syphilis, it would appear more frequently immediately after birth than later; and, furthermore, acquired syphilis ought to attack this membrane frequently. He does not attribute the importance which other observers do to the peculiar dental alteration described by Hutchinson. For him diffuse interstitial keratitis constitutes a manifestation of general organic dyscrasia, no matter from what cause. Rickets is the most common direct cause, and hence the treatment should be tonic and reparative, such as iodine, the bitter and ferruginous tonics, and, above all, cod-liver oil. Great attention should be paid to the hygienic surround-

ings, country air, nitrogenous food, and saline baths. He recognizes two varieties of the disease—acute and chronic—in both of which the sclera or episcleral tissue is apt to become involved, as well as the iris. The acute variety is vascular, while in the chronic variety there exist but few vessels. Warm applications are indicated in the latter, as well as massage.

38. Galezowski considers the *influence of iritis and choroiditis in the development of cataract*. Chronic recurring iritis predisposes to posterior synechiæ, which, extending gradually around the entire pupillary margin, form a real obstacle to the passage of the aqueous humor. For a certain period this fluid passes by filtration through the thickness of the iris, but after a time this membrane becomes rigid, thick, less of an osmotic membrane, and the aqueous humor, becoming stagnant and unrenewed, leaves deposits behind the iris. Venous stases appear in the ciliary circle, the secreted liquid becomes less nutritious, and, as a result of this, the lens begins to become opaque. The same pathological process is observed in irido-choroiditis and irido-cyclitis. The opacities of the lens become more marked and more rapid in their development the more the capsule is involved in the process. By degrees the deposits behind the iris extend all over the capsular surface until they reach the great circumference of the lens, where they interrupt exosmosis and endosmosis, thus aiding in the development of cataract.

41. De Wecker has been studying the *cicatrices met with in glaucomatous eyes after operation*, and comes to the following conclusions: 1st. The cicatrization is very perceptibly influenced by the existing conditions of pressure, or tension, and the greater the tension is during the period of formation of the cicatrix, the thinner the latter will be. 2d. The equalization of the cicatrix, as to surface and density of woof, advances *pari passu* with the reduction of tension, so that a cicatrix may finish by almost disappearing except under oblique illumination. 3d. It is possible that these eyes, in some sort deprived of a cicatrix of filtration, and hence of the curative action due to the latter, may be again attacked by glaucoma. 4th. The healing of the wound under a very slight degree of tension explains the slight effect of cicatrices established in

cases of absolutely simple glaucoma. The cicatricotomy or division of the cicatrix which restores its power of filtration is apt to re-establish the equilibrium, and thus cure the glaucoma.

44. Galezowski, in his paper on *ophthalmic migraine*, believes with Charcot that all neuroses carry in themselves the germ of material lesions. Ophthalmic migraine is a new proof of the truth of this assertion, for Galezowski has observed among his cases of this disorder two of thrombosis of the retinal vessels—one of thrombosis with rupture of the vessels, and one of partial atrophy of the optic papilla. These retinal accidents he regards as autochthonous, but there is a direct correlation between these ocular neuroses and the retinal thrombosis. If the spasm of the vessels is the initial cause of the migraine, it may be understood, up to a certain point, that the prolonged contraction of the arteries may in the end lead to obliteration.

45. In two cases Bettman found, from an anatomical examination of *the eyes after death from anæmia*, that the essential pathological alterations were changes in the walls of the blood-vessels, œdema of the nerve-fiber layer of the retina, and formation of hæmorrhages and varicose nerve-fibers. In the surface preparations of the choriocapillaries the distended parts of the vessels were unusually filled with blood corpuscles, and comparison with normal preparations showed that, although their number had not increased, they had become somewhat larger in size. The changes produced by serous transudation were especially marked near the papilla, and the repeated appearance and disappearance of the retinal cloudiness had been observed with the ophthalmoscope. The narrow network, with fine granular contents, about the larger retinal blood-vessels in the inner nerve-fiber layer, appeared most distinct in those preparations which contained the long diameter of the vessels. The round and ribbon-shaped hæmorrhages were most numerous at the posterior pole. The yellowish-white spots in the center of the hæmorrhages may originate in three ways: 1. By the accumulation of well-preserved lymphoid cells in the middle of the hæmorrhage. 2. By degeneration of the above-mentioned clusters of lymphoid cells and surrounding blood corpuscles, combined with secondary structural changes. 3.

By the presence of large clusters of varicose nerve-fibers in the center of the hæmorrhages. The white plaques in Bettman's cases were composed exclusively of varicose nerve-fibers. There was no direct connection between the hæmorrhages and the varicosities; the latter occurred but rarely within the hæmorrhages, and then only isolated and in the periphery. As the size of the sanguineous exudation stood in no proportion to the diameter of the aggregation of varicose nerve-fibers, and, as there were hæmorrhages around but a few of the numerous clusters, it is to be assumed that they had a secondary origin, and that a corresponding appearance may be observed with the ophthalmoscope—namely, the gradual formation of a red border around a white spot.

48. Eales reports a case of *embolism of the central retinal artery* in which the rapid restoration of the circulation was against the theory of restoration through collateral branches of anastomosis. He assumes that an embolus was lodged in the trunk of the retinal artery, causing only momentary arrest of circulation. This embolus was rapidly broken up by the passing blood stream, and parts of it were carried into the smaller branches of the artery, a part only remaining in the trunk of the vessel, there undergoing absorption. The failure of recovery of central vision he thinks was due to destruction of the delicate extra-vascular structures of the retina at the fovea, in consequence of prolonged interference with the normal circulation.

49. Griffith reports a very rare case of *horizontal hemiopia* in a fairly strong, healthy-looking man, forty-two years of age. About two years before, the patient, when sitting at home resting after his work, noticed suddenly that he could see only half of any object with his left eye. On examination, vision was found to be normal in each eye, and refraction emmetropic. The field of vision of the affected eye, taken at twelve inches from the blackboard, was found to be entirely wanting below a horizontal wavy line which lay from three to six inches below the fixing point. The field of vision of the right eye was normal. In the left eye the upper half of the disc was very pale, and contained few vessels; the lower half was normal, as was also the rest of the fundus. The right fundus was nor-

mal. The urine contained no albumen; there was a rough systolic bruit at the apex. The patient was temperate, with no history of syphilis or rheumatism. The only feasible explanation of the condition of the optic nerve is embolism of one or more of the arterial twigs supplying the optic nerve.

51. Poncet describes a case of *myxoma of the optic nerve* in a young girl, aged sixteen, in whom the eye was replaced by a tumor as large as an orange. The lids were enormously distended, and firmly adherent to the tumor. At the center there was still a vestige of degenerated cornea, surrounded by a thickened conjunctiva, like parchment, adherent all round to the margins of the lids. There was a certain mobility to the tumor, which was not very firmly adherent to the orbital walls. The growth dated from the patient's third year, and at the age of ten vision was entirely destroyed. The tumor developed slowly and painlessly, and there was a certain amount of fluctuation. An attempt was made to remove the entire mass as it was; but, this being found impossible, a trocar was introduced, and a large amount of yellowish, transparent liquid withdrawn. This caused a notable collapse of the tumor, which was then removed without difficulty. The orbital cavity was found to measure seven centimetres in its antero-posterior diameter. The tumor was found to be a fasciculated myxoma, developed probably from the endothelial cells in the fasciculi of the optic nerve, or cells of the neuroglia, and Poncet therefore calls it a myxomatous neuroglioma.

53. Chisolm reports two cases of *malignant tumors of the sphenoidal cavities*, which caused impairment of vision. In both cases the growth began at the base of the skull, destroyed vision, then developed forward, filling the orbits and nares and pushing the eyeballs forward. In one case there was no pain whatever; in the other the patient suffered intense agony from the beginning of his trouble. One case began with nausea, vomiting, and headache, and, when sight became affected, the cerebral symptoms suddenly passed away and did not return during the sixteen months of life. In the other, nausea and vomiting appeared among the last symptoms. In both cases the mind remained clear throughout, and in both the disease extended from the right to the left side. In neither case

was there any general paralysis, nor any evidence of extensive encroachment by the growth in the direction of the cranial cavity. In one case there was divergent squint with ptosis, in the other convergent squint with ptosis. The sense of smell was lost in one case and retained in the other.

54. In his paper upon the *anatomical changes in the nerves after optico-ciliary neurotomy*, based upon microscopical examination of a series of cases, Krause comes to the following conclusions: Two months after the operation the regeneration of the nerves has advanced so far that the newly-formed nerves may be demonstrated in the sclera. After three months and a half there is no trace of atrophic nerve-fibers to be seen, but newly-formed nerves may be found everywhere, which, however, do not as yet possess all the attributes of normal nerves. The medullary sheaths appear less transparent than normal, and they do not all contain an axis-cylinder. The increase of the nerve-nuclei is very evident, even at the end of a year and a half. After two years the newly-formed nerves can not be distinguished in any way from the normal nerves.

55. Chisolm reports two cases of *rupture of the eyeball in its posterior hemisphere* from blows—a rare accident. The first was that of a man, aged twenty-seven, who was struck on the left eye with a chair. He was knocked down insensible, and had his nose and eyebrow badly cut; the eyeball protruded, the lids were very much swollen, the conjunctiva was much discolored with blood extravasation, and was chemotic. The anterior chamber was full of blood, there was no perception of light, the tension was much reduced, and there was no wound or laceration of the anterior half of the eyeball. Laceration of the posterior hemisphere of the sclera was diagnosticated, and the eye was enucleated. The orbital tissue was found filled with blood, and a large rent in the outer wall of the sclera, in the posterior hemisphere, was discovered, between the insertions of the external rectus and oblique muscles. The second case was that of a man, aged twenty-three, who was wounded in the right eye by a pistol-shot. Vision was destroyed at once, and there were present all the symptoms of the preceding case, and no injury to the anterior hemisphere of the eyeball. On enucleation the eye-shell

was found full of coagulated blood, its normal contents having escaped through a large rent in the upper part of the ball, extending backward from the insertion of the superior rectus tendon. The laceration seemed to have started from the point at which the blow impinged, and the tendon of the muscle restricted the laceration to the posterior hemisphere of the eyeball, and prevented the wound from being seen when the eye was examined before operation.

56. Derby reports three cases of *hydrophthalmus treated by iridectomy*. These cases show that iridectomy, undertaken at a late stage of the affection, is liable to be complicated by hæmorrhage, and to leave the eye in a state of chronic and painful irritation. But the disease was arrested by the operation, and an amount of vision maintained for a number of years, that was rapidly being lost. He therefore advises iridectomy in such cases.

59. Cohn has a short paper upon the *diseases of the eye which occur in those who masturbate*. He finds that excessive onanism may give rise to obstinate opthosia, conjunctivitis, blepharospasm, paresis of accommodation, mania, hypochondria, speculative mania, and tabes. He has nothing new to suggest, either as to the pathology or as to the treatment of these eye-symptoms.

60. Priestley Smith, in his paper on *the action of atropine and eserine in glaucoma*, begins by asserting that the very pronounced changes of tension which these drugs cause in glaucoma must be connected with some abnormality in the glaucomatous eye, and that this lies in the mechanical relations of the iris. Whenever a myotic or mydriatic lowers or raises the tension of an eye in a marked degree, it does so by altering the position of the iris in such a manner as to hinder or promote the escape of the intraocular fluid. Atropine is potent for mischief, chiefly in the primary form of glaucoma and in its earlier stages. In the earlier stages the periphery of the iris is pressed upon behind by the ciliary processes, and is very nearly in contact in front with the cornea; hence, any thickening of this portion of the iris is apt to cause a sudden blocking of the angle of the chamber, and, consequently, a sudden aggravation of the glaucomatous state. In the later stages, atropine can hardly increase the obstruction at the outlet of the eye, for the periphery of the iris is already ad-

herent to the cornea, and the ciliary processes are atrophied and retracted. When an eye of normal tension is rendered glaucomatous by atropine, it is reasonable to suppose that the angle of the chamber was already dangerously narrow, and therefore prone to obstruction whenever any unusual dilatation of the pupil should occur. Occasionally the use of eserine in primary glaucoma will completely reduce the tension and permanently cure the glaucoma. When the eyeball becomes, as it were, locked, and is unable to recover of its own accord, eserine unlocks the outlet for the pent-up fluid, the turgid ciliary processes subside, and everything returns to its previous condition. It is in the sudden, but comparatively mild, attacks which come and go at intervals during the premonitory stage of the disease, when the outlet of the chamber appears to be constantly on the brink of danger, but never occluded for any length of time, that eserine acts with the greatest promptness and certainty. In simple chronic glaucoma eserine will sometimes cause a temporary reduction of tension, and a corresponding improvement of vision, but the improvement is never permanent. In the advanced stages of glaucoma, when the periphery of the iris is firmly adherent to the cornea, eserine can not in any way relieve the obstructed outlet. When eserine fails to do good it is very likely to do harm. When the mechanical effect upon the iris is unattainable, then the vascular effect induced by eserine is distinctly injurious. Smith formulates the rules for the use of eserine and atropine in glaucoma as follows: 1. Eserine is not to be regarded as a specific remedy for increased tension in general, but as a means of combating the particular displacement of the iris which, in a large class of cases, is the immediate cause of the excess of tension. 2. Atropine is to be regarded as inadmissible only in those cases in which dilatation of the pupil is likely to intensify the effect of the above-named displacement of the iris. 3. In primary glaucoma, and particularly in its early stages, atropine and all other dilators of the pupil are to be studiously avoided. 4. Every case of primary glaucoma should be first treated tentatively with eserine; the eye should be re-examined within twenty-four hours, in order that an operation may be at once undertaken if the tension remain

unrelieved. 5. When eserine produces a full contraction of the pupil, it usually produces a reduction of tension and an improvement of vision, and in exceptional cases it effects a cure. 6. Eserine is to be regarded rather as a means of giving temporary relief, and of placing the eye in a condition favorable for operation, than as a means of cure. 7. It is chiefly in very recent subacute or acute attacks that benefit from eserine is to be hoped for. 8. In simple chronic glaucoma, contraction of the pupil by eserine may be associated with some reduction of tension, but it is unlikely that the benefit will be great or lasting. If operation be deemed inexpedient, the pupil should be kept permanently contracted by eserine, so far as this can be done without causing irritation, in order, if possible, to retard the progress of the disease. 9. The strength of the preparation employed and the frequency of its application should be the minimum which is sufficient to contract the pupil and to keep it contracted. 10. When eserine proves powerless to contract the pupil, it will not reduce the tension or do good in any way, but, on the contrary, is likely to do harm by promoting hyperæmia. 11. The period most favorable for operation is that during which the pupil still responds to eserine. 12. As a preliminary, and as a sequel to sclerotomy, contraction of the pupil by eserine is almost a *sine qua non*. As a preliminary to iridectomy, it is advantageous in so far as it reduces the tension of the eye, but it has the disadvantage of increasing the hæmorrhage from the iris. After iridectomy, eserine is apt to promote the formation of posterior synechia, and has been known to induce a fresh glaucomatous attack; atropine, on the other hand, is certainly sometimes beneficial. 13. In those cases in which a condition closely resembling primary glaucoma is set up by an intraocular hæmorrhage, eserine

must be used with great caution. 14. In secondary glaucoma, associated with posterior or anterior synechia, eserine is likely to do harm; atropine may be useful in subduing inflammation. The same rule holds good for serous iritis. 15. Glaucoma following needle operations on the lens might possibly, in the absence of iritis, be momentarily relieved by eserine; but eserine is contra-indicated by the danger of setting up iritis; the speedy removal of the swollen lens is the rational treatment. 16. Glaucoma due to the presence of the lens in the anterior chamber is likely to be aggravated by eserine.

61. Emmert discusses the properties of the new mydriatic *hyoscinum hydryodate*, which is a salt of the pure alkaloid made from the so-called amorphous hyoscyamine of Merck. It is a brownish, brittle, crystalline mass, the formula for which is $C_8H_{13}NHI$. In experimenting with it upon rabbits, he found that one drop of a solution of 0.01 to 10.0 acted more quickly and energetically upon the pupil and accommodation than one drop of a solution of atropine of 0.05 to 10.0. The same solution also resisted the action of eserine more strongly than atropine. Its action upon the pupil and accommodation was, however, less lasting than that of atropine. The use of the drug produces no unpleasant effects, and it is borne extremely well by the conjunctiva, even for a long time.

63. Grossmann considers *iodoform* to be of the greatest value in *purulent conjunctivitis*, both of simple and virulent nature. He makes use of a very fine powder, and dusts it upon the conjunctiva of the everted lids. He also advises its use as an antiseptic dressing in ophthalmic surgery. Its very slow and slight solubility makes it probable that a small quantity is sufficient for twenty-four hours, and thus the bandage may be left on the operated eye for an equal period, or even longer.

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2. COUES, in discussing the nature of the temporal bone, proposes to employ the term chronosteon as its name. It is not one homogeneous bone, but a cluster or congeries of heterogeneous osseous elements, at some period of

their development entirely separate and distinct bones, but finally consolidated in one indistinguishable mass, except the ossicula auditus. Thus some of them, as the petro-mastoid and tympanic, belong to the auditory apparatus,

constituting the otocrane or skull of the ear. Others belong to the mandibular or hyoidean apparatus. In strictness none of the temporal bones pertain to the cranium proper, however closely incorporated therewith some of them may be, particularly the otocranic elements; for the three segments of the cranium, forming a vaulted tubular brain-case or neurocrane, are morphologically complete without intervention of a chronosteon. Those parts of the chronosteon which are not otocranic or accessory thereto are rather maxillary, or mandibular, or hyoidean than neurocranial, and the ear itself is primitively an involution of the integument. The human chronosteon consists essentially of the bony parts of the organ of hearing, in which are included, or with which are consolidated, portions of the mandibular and hyoidean arches, together with a membrane-bone, with which the maxilla is connected and the mandible is articulated. The otocrane is quite homologous with the sclerotica. The acoustic sense-capsule is wedged in between the parietal and occipital segments, and the auditory nerve which enters it is correspondingly disposed with reference to the cranial segments. The otocrane, moreover, bears additional fixed relations to certain sensorimotor nerves, which, arising from the hind-brain, are always either pre- or post-auditory. Thus the third division of the trifacial passes out behind the center of the ali-sphenoid, and before the anterior element of the otocrane; while the glosso-pharyngeal and pneumogastric escape by the cleft between the posterior element of the otocrane and the occipital, called the foramen lacerum posterius. The human chronosteon is connected with the bones of the posterior two of the three cranial segments by fixed sutures extending around its general circumference, uniting it with the occipital, parietal, and sphenoid bones. It is connected with the bones of the three facial arches—the maxillary, mandibular, and hyoidean—and here the main point to be remembered is that the apparent ends of all three arches come together in the chronosteon. Thus the chronosteon is seen to unite the two great offices of an auditory sense-organ and of a suspensorium of the facial segments. The morphological elements of the chronosteon are as follows: 1, Squamosal; 2, The tympanic or "auditory process"; 3,

Prootic; 4, Epi-otic; 5, Opisth-otic; 6, Malleus; 7, Incus; 8, Stapes; 9, Tympano-hyal; 10, Stylo-hyal. The relative dimensions of the squamous and zygomatic parts of the squamosal are in man the reverse of those which oftener obtain in other mammals. Coes's description of the tympanic bone does not differ from that of other anatomists. The petro-mastoid or periotic makes up the great bulk of the chronosteon. The whole mastoid region is simply a postero-external outgrowth of the periotic. The latter develops from a mass of cartilage, situated in the basis cranii between the occipital and sphenoid, from three centers of ossification—the pro-otic, the epiotic, and the opisthotic. The first of these is anterior and in special relation with the corresponding vertical semicircular canal. The second is superior and external. The third is posterior and inferior, in relation with the posterior vertical semicircular canal. Their confluence completes a bony periotic capsule, inclosing the labyrinth or cavity of the inner ear. This is the triune periotic bone; with its mastoid developments, the still only triune petro-mastoid bone; with its tympanic annex, the otocrane or skull of the ear. The remaining bones—the three ossicles of audition and the tympano-hyal and stylohyal—belong morphologically to the mandibular and hyoidean arches, which are visceral arches. These visceral arches and visceral clefts speedily disappear in man almost entirely, but the hind end of the first visceral cleft persists patulous, and becomes the ear-passages, modified as auditory canal, tympanic cavity, and Eustachian tube, placing the cavity of the pharynx in what would be direct communication with the world through the ear, were it not shut off by the membrana tympani. In the first visceral arch appears a long, slender, cartilaginous rod called Meckel's cartilage, at the hinder end of which is developed a constant bone, the malleus. In like manner a chain of bones is developed in the second visceral arch, forming the hyoidean series. The incus of man is the proximal bone of this series. The tympano-hyal is a small cylindric piece of bone lying in a canal between the tympanic and periotic bones and firmly ankylosed with the surrounding bones. The stapes is a peculiar bone, standing somewhat apart from the hyoidean series with which it is associated, but by it the fenestra

ovalis is connected with a point in the course of the hyoidean arch near its end. That part of the hyoidean rod which is above the point where the stapes joins, when it ossifies and becomes a separate bone, is the incus. At this point of junction there is occasionally developed a separate ossification, forming the minute os orbiculare, sometimes called the fourth ossiculum auditus.

3. Kessel has made some investigations into the function of the concha in the perception of space. He considers it settled definitely that sharply defined anatomical marks exist in the concha by which, under given conditions, variations in intensity are produced. He imagines constructively five "hearing-regions" so called: an anterior, posterior, inferior, superior, and a middle or direct hearing-region. The anterior extends from the median axis to the edge of the tragus; the middle, from the tragus to the posterior margin of the concha; the posterior, from the latter limit to the prolongation of the median axis backward. The lower hearing-region extends from the imaginary prolonged vertical axis from below to the lower wall of the auditory canal; the upper extends from the upper wall to the prolonged vertical axis upward. The best binaural hearing is found in the median plane forward, but the best hearing with one ear is found in the axis of the organ of hearing.

6. Knapp reports a case of *congenital fibrous closure of the external auditory canal* in which an opening was frustrated by auditory hæmatophilia. He used a narrow-bladed knife and thrust it one inch deep into the soft tissue which filled the canal, finding no bony resistance. The moderate bleeding showed no tendency to stop spontaneously, and he inserted a perforated silver tube into the wound and put a pad of absorbent cotton over its external end. The wound bled for twenty-four hours, and when the dressing and tube were removed the bleeding increased. On the fourth day the whole pre-auricular and infra-auricular regions were considerably swollen, and on the fifth day the whole parotid region was swollen as in mumps, tender, and of a bluish-red color, showing an extensive extravasation of blood. The patient had a pronounced hæmorrhagic diathesis. The hæmorrhage being continuous and there being no tendency to cicatrization, he

gave the treatment up on the ninth day, and the wound healed very soon after the removal of the tube. One interesting feature in the case was that the blood found its way through the interruptions in the cartilage of the auditory canal into the substance and surroundings of the parotid gland.

9. Field reports several additional cases of *removal of osseous tumors from the external auditory canal*, and then summarizes his conclusions from the consideration of such cases as follows:

1. Where there is one tumor of the consistence of ivory occluding the canal, the only operation of any permanent service is that of drilling through the growth by means of the dental engine.
2. It is advisable in the drilling to use a metal guard, to pass behind the tumor, in order to lessen the risk of any accident.
3. Where there is more than one tumor, operations of this kind are as a rule unnecessary, since in the case of multiple growths a triangular channel is usually found which may be kept open by other means.
4. In a very great majority of aural exostoses there has been no history of gout, rheumatism, or syphilis.
5. Some bony tumors of the ear, although filling up the external auditory canal, are attached by a small pedicle, and can be easily removed.
6. A mechanical irritation, such as is caused by the presence of pus in the canal, or such as might result from the effects of frequent sea-bathing, is often a source of osseous tumors.
7. In the case of imprisonment of purulent discharge in the tympanic cavity by means of a growth of bone filling up the auditory canal, and consequent production of grave symptoms, an operation is imperative.
8. If from the closing in of the auditory canals in both ears by bony growths very severe deafness ensues, an operation is called for. If the hearing in one ear is good, removal of an exostosis or hyperostosis for the relief of deafness in the other ear is not to be recommended, unless the existence of a pent-up purulent discharge within the tympanum be suspected.

11. Blake considers the subject of *acute congestion of the upper portion of the tympanic cavity and membrane*, and mentions, among the distinguishing subjective symptoms, the character of the pain, which is usually very severe and paroxysmal, and is not preceded by the usual sensations of fullness, dullness,

and vague discomfort. With the advent of pain in the ear, however, there is usually a sensation of extreme tension in the organ, and a constant pain, more or less acute, referred to the corresponding side of the head and extending toward the vertex. During the first part of the attack there is but little tinnitus aurium, and the hearing remains comparatively unimpaired. Objectively, there is an intense congestion of the upper portion of the drum membrane, serous exudation into the tissues in this neighborhood, and a projection outward of Shrapnell's membrane, with a bulging forward of the tympanic membrane as a whole, as if distended by serous accumulation in the tympanic cavity. If the trouble progresses without spontaneous resolution, within a period of from three to twenty-four hours the tympanic mucous membrane, as seen through the membrana tympani, is intensely congested. The paroxysmal pain does not subside with paracentesis of the drum membrane or of Shrapnell's membrane, but continues until a continued copious serous discharge has relieved the tension of the distended vessels. The majority of the cases observed by Blake occurred in children during measles, coincidently with the appearance or at the height of the facial eruption. Blake infers that the acute congestion of the upper portion of the tympanic cavity in these cases is of reflex origin, the local exhibition of which is an innervation of the vaso-motor tract controlling the vessels distributed to the anterior and superior portion of the tympanic cavity from the direct tympanic branch of the carotid. The bulging outward of the drum membrane below, 'in consequence of the compression of the air in the tympanic cavity, is a symptom which may be considered as supporting this hypothesis. That the increased intra-tympanic pneumatic pressure is an insignificant factor in the causation of pain is proved by the fact that neither opening of the Eustachian tube nor paracentesis of the lower portion of the membrana tympani gives measurable relief, and that this pressure serves to control the exudation of serum is shown by the speed with which serous exudation into the tympanic cavity follows the paracentesis in the majority of cases. Puncture of Shrapnell's membrane gives more relief than any other operative procedure.

19. In speaking of *adenoma at the vault of the pharynx*, Bosworth asserts that the impairment of hearing, so frequently met with in these cases, is not dependent upon pressure upon the Eustachian orifice. He has never seen any orifice closed or pressed upon by these tumefactions. The true explanation of the deafness he thinks lies in the rarefaction of the air in the middle ear, the indirect result of the obstruction to the normal current of air through the nose. By the presence of an adenoma in the vault of the pharynx, or a hypertrophied mass on the posterior end of the turbinated bones, the current of air which normally sweeps over the Eustachian tube is deflected from it. The air immediately about it will therefore become slightly rarefied by the to-and-fro current passing above it. Again, the freedom of the muscles of the pharynx is necessarily impeded by the presence of these tumors, and thus there arises another source of abnormal rarefaction of the air in the middle ear. The palate at the same time is drawn up toward and adds to the tendency to press against this orifice and thus force air through into the middle chamber. The unceasing action of vocal waves upon the tympanum would naturally tend to rarefy the air behind it; hence the action of the muscles of deglutition in restoring air to the middle ear would be a conservative one.

21. Steinbrügge reports a case of *diplacusis* due to a labyrinthine inflammation which involved both cochlea and vestibule. In the cochlea the result was a uniform relaxing of a large part of the zona pectinata, with the setting in vibration of a string of one third deeper tone than on the opposite side, through which was excited a portion of nerve structure formed for the perception of a higher tone than the symmetrical nerve fiber on the other side. Then there resulted either a greater disorganization of the zona pectinata or of the organ of Corti, for all tones sounded confused, and listening to music became unbearable. In the vestibule and ampullæ the inflammatory irritation was shown by attacks of vertigo and nausea and vomiting. The apparent cure in this case was probably due to destruction of the conducting power of the left acoustic nerve, or to total destruction of its terminal expansion in the labyrinth, in consequence of an insidious chronic inflammation.

25. Moos and Steinbrügge report an interesting case of a *crétin with defects of development and rachitic changes in the ears*. The patient was a deaf mute who died in the hospital, and the autopsy showed caries of the right scapula, purulent infiltration of the soft parts in that region, bronchiectasia, pulmonary emphysema, chronic leptomeningitis and hydrocephalus internus, and hyperostosis of the skull. The squamous portions of both temporal bones were sclerosed, as were also both mastoid processes. The external auditory canals and drum-heads were normal. The congenital defects were incomplete ossification of the right stapes, absence of the foot-plate of the stapes on the left side, and incomplete ossification of the facial canal on both sides. The rachitic changes were hyperostosis of the inner and posterior wall of the drums, narrowing of the internal auditory canals, thickening of the cochlear walls, and the change of the annular ligament into bone.

28. Weil's paper upon the *results of the examination of the ears and hearing of nearly 6,000 children* is interesting. By comparing the results at different ages it is found that the younger children hear better than the older, and that the frequency of defect of hearing increases with the age of the children. He thinks that children are often misjudged and called inattentive when they are really deaf, and he insists that every inattentive child should have his ears examined. A proper education in aural surgery on the part of physicians, and regular examinations of the ear, would be of great importance to the community, and would also assist in bringing otology into a prominence which it certainly deserves.

29. Buck speaks confidently of the *value of counter-irritation in affections*

of the middle ear. The class of cases in which we find it useful comprises all those in which the vessels of the middle ear and immediate neighborhood remain more or less gorged with blood long after the disappearance of pain in the affected region. He does not go so far as to say that he can depend upon the curative efficacy of counter-irritation alone, but he simply claims for it the power to materially enhance the good effects of the naso-pharyngeal treatment. In infants and young children sufficient counter-irritation may usually be obtained by painting the skin over the mastoid process once or twice daily with two or three coats of the tincture of iodine. As soon as decided soreness is produced, the skin should be allowed to remain quiet for three or four days before the applications are resumed. In adults it is better to resort at once to the application of the ordinary vesicating plaster or to Squibb's cantharidal collodion, taking the precaution to cover the freshly painted skin with a piece of rubber plaster. For so long a period as may be found necessary, a fresh blister should be applied every fifth or sixth day.

32. Burnett recommends *salicylate of chinoline in otorrhœa*. Chinoline is made from coal-tar, is an energetic bacteria poison in a one-fifth-of-one-per-cent. solution, and forms several salts, among which the tartrate and salicylate are both colorless, the latter being an amorphous powder, creamy white, of an aromatic odor, and well adapted for insufflation. It is disinfectant, non-irritant, detergent, and quite as healing as resorcin. Under its local use the mucous membrane is blanched quickly, and remains so for twenty-four hours, becomes cleaner, and ceases to discharge pus.

QUARTERLY REPORT ON PSYCHOLOGICAL MEDICINE.

No. VI.

BY NORTON FOLSOM, M. D.,
BOSTON.

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12. SPITZKA, E. C.—Epileptiform states of a peculiar character associated with imperative conceptions. "Am. Jour. of Neurol. and Psychiat.," Feb., 1882.
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18. WOODSIDE, J. S.—The obstacles to the abolition of mechanical restraint in our insane asylums. "Med. Record," Mar. 4, 1882.
19. SHAW, J. C.—A second year's experience with non-restraint in the treatment of the insane. [Editorial.] "Arch. of Med.," Apr., 1882.

2, 3, 4, 5, 6, 7, 8, 9. [If any difference of opinion exists between properly qualified experts as to the *insanity of Guiteau*, it is probably a difference of terms. No one familiar with insanity who is not *determined* to think him sane can feel any reasonable doubt that his mind is, to some degree, unsound—that it deviates from the healthy type to a greater or less extent. The question of *responsibility* is a very different thing from that of insanity in the broad sense of that term. It is often said that all men are more or less insane, but this is far from the truth. There are certain deviations from the usual course of mental action that frequently occur without suggesting disease. The memory is a variable function, and sometimes suddenly fails to act for a longer or shorter time without exciting apprehension of disease. Yet it is also true that impairment of the memory is sometimes due to disease, and may constitute one proof of certain forms of insanity. Mental depression and exaltation, within certain bounds, are common to all mankind.

And yet they may constitute conclusive proof of disease. Insanity, in the broadest sense, is any degree of unhealthiness or deviation from typical action. But, in the sense in which physicians use it, it signifies *a disease*. It is an absolute departure from mental health—a disease of the brain, just as much as pneumonia is a disease of the lung. That it is sometimes difficult of recognition does not alter this fact. If sufficient time be given, and if sufficient is known about the individual, it is recognizable by ordinary skill. Metaphysical refinements are not necessary, and are not often useful. In examining the condition of the mind, it is convenient to classify the mental functions to some extent, but not essential. Perception, conception, intellection, emotion, and volition are not separately recognizable in the observation of a case, as inspiration and expiration of air would be. But, just as much as in pneumonia, the symptoms and clinical history of insanity lead to the diagnosis. The question of moral responsibility is another thing. The legal responsibility

of the individual is still another. There would seem to be reason for regret that in the conduct of Guiteau's trial the physicians were not given fair opportunity, and required to determine the medical facts alone; or, still more, that his mental status was not determined by a medical commission before trial.]

10. Dr. Bucknill has been led into a most interesting investigation of *Dean Swift's mysterious disease* by a letter from a literary friend, who particularly inquired whether the sane part of his life was likely to have been in any way affected by the latent presence of insanity; whether a correct diagnosis was possible; whether parallel cases were on record; and, finally, whether a surfeit of green fruit, at the age of twenty-three years, was capable of resulting in the absolute fatuity from which he suffered at seventy-five. As it appeared that the subject had already been very fully discussed in the light of the knowledge of the time, and, in fact, a good deal said that might better have been spared; and that in the year 1849 a work was published by Sir William Wilde, upon the closing years of his life, marked by careful research, sound reasoning, moderate opinions, and fair conclusions; it was only in the advances of science during the last thirty-two years that Dr. Bucknill found reason for further consideration of the subject. He concludes that Swift suffered from the curious disease called labyrinthine vertigo, or Ménière's disease, and the confirmation of this opinion in Swift's own record of his symptoms is singularly strong. It is true that he attributed what Forster alludes to as his "two life-long enemies," giddiness and deafness, respectively to eating "a hundred golden pippins at a time, at Richmond," and to a cold taken four years after. But, as Dr. Johnson remarks, "the original of diseases is commonly obscure, and almost every schoolboy eats as much fruit as he can get, without inconvenience." The former cause, having disturbed his digestion, was associated with the sickness and vertigo really due to the subsequent aural disease. The most descriptive passage occurs in the "Journal to Stella," and is dated October 31, 1710. "This morning, sitting in my bed, I had a fit of giddiness; the room turned round for about a minute, and then it went off, leaving me sickish, but not very. I saw Dr. Cockburn to-day, and he promises to

send me the pills that did me good last year, and likewise has promised me an oil for my ears, that he has been making for that ailment for somebody else." The paroxysmal character of the complaint, the dizziness in walking, tottering and drunken gait, giddiness on sudden turning, stuffed feeling in the head, headache of true giddy sort, causing weakness, deafness for days at a time, and noise in the ears, are the characteristic symptoms brought into relief by quotation from his journals. Up to the year 1736, when he wrote "The Legion Club," the only mental impairment appears to have been some loss of memory, of which, indeed, he complained as early as 1713. During the four years ending in 1741 he was very wretched, and much depressed, outward and inward causes combining to this effect, and he had forebodings of insanity. From this time till his death, in 1745, the accounts are imperfect and contradictory, but his insanity was recognized, and his power of speech was affected. He had at one time many large boils, and terribly painful and extreme swelling about the left eye. Convulsive fits are recorded as having occurred just before death. At the post-mortem examination much water was found on the brain; the vessels within the cranium were enormously developed; the posterior and middle lobes were largely developed, at the expense of the anterior lobes and the cerebellum. A plaster cast showed a drag on the left side of the mouth, exhibiting a paralysis of the muscles to the right side. Dr. Bucknill thinks it clear that there was dementia, with melancholia, and that form of aphasia in which scraps of reasonable language come automatically, though intentional effort can produce no words. The right-sided hemiplegia was brought to light a hundred years after his death by the plaster cast, and recent discoveries enable us to connect this with the aphasia. Dr. Bucknill concludes that, considering the life-long aural vertigo and its obvious effect on his temper, it is wonderful that Swift did retain his reason until, in the seventy-fourth year of his age, he was in all probability struck down by a new disease in the form of a localized left-side apoplexy or cerebral softening, which determined the symptoms of his insanity. He finds no symptoms of insanity in his writings or conduct.

16. The editorial writer in the "Med-

ical Times and Gazette" comments on the great success obtained at the Sussex County Lunatic Hospital by the judicious *employment of the insane*. The medical superintendent of that institution has lately pointed out how greatly the well-being of the patients, their prospect of restoration to reason, and the quiet and order of the house, depend upon it. The variation of its nature is regarded as of great importance, and each case is studied with a view to providing exactly what is suited to the patient's bodily and mental state. A town-bred artisan in a low state of bodily health will generally improve under a little gentle garden exercise, whereas a rustic tending toward dementia would derive little benefit from so familiar an occupation, but, if put to learn a trade, often brightens up considerably. The farm and the garden, of course, are most agreeable and beneficial to the majority. More than three quarters of the Sussex patients had been usefully employed during the year. For the males there were sixteen different employments, for the females six. The writer considers that in this variety and discrimination lies the success. The routine turning out of broken-down men to hard work, and the exhortation of a crowd of women to stitch perpetually, is by no means scientific treatment. True rest, but not idleness, is, in his opinion, more likely to prove restorative to a large majority of pauper lunatics than spade-labor or immersion in soap-suds. Caution and gentleness in calling for work are indicated, and, admitting the great importance of work in subordination to medical treatment proper, it can only be safely and wholesomely used by a medical man, who prescribes it in each case as he would a drug, specifying its nature and duration, and constantly watching its effects.

18. [Dr. Woodside, in giving earnest support to the principle of *non-restraint in insane asylums*, does great injustice to his fellow-superintendents in this country. In ascertaining the facts in regard to the extent to which mechanical restraint is used, he employs the statistics, or rather calculations, of Dr. H. B. Wilbur, recently published in New York, and alluded to in a former number of this journal, which were based upon a limited number of replies to a circular letter of inquiry, and which can not be considered at all conclusive as to the amount of restraint

generally used. After making all allowances, however, required for imperfection of statistics and personal prejudices, it is undoubtedly true that mechanical restraint, though less used than formerly, and still in process of abandonment or limitation in many institutions, is employed far more than an ideal administration of asylums would warrant, and in some institutions evidently to the marked injury of the patients. Dr. Woodside has within a few months visited a State asylum containing about five hundred patients, with, apparently, ample facilities for their proper treatment, and found a state of affairs which, however uncommon in this country, may fairly be considered disgraceful to the profession and to the civilization of the day. The picture which he gives would correspond with the state of affairs in asylums, of not the very highest class, seventy-five years ago; but it is startling to learn of such an instance now, especially as Dr. Woodside maintains that it is not the only one. He is not quite explicit as to the number of patients restrained, but says it appeared to him that the majority were so. "They were seen lying curled up in all sorts of places and positions, some wearing wristlets fastened by a chain to their ankles, or with wristlets merely, and fastened to the chair or bench on which they were sitting, by the belt; others walking around in camisole, or with hands confined to a chain or belt around the waist. One poor creature was lying quietly on his back, wearing iron anklets from which a short chain extended, to be hitched to an upright post. It was almost impossible for him to get on his feet, or, if there, to remain so long. The two "worst" characters were confined in a small compartment, about fourteen feet by six feet. One burly fellow wore an iron or steel collar, from which extended a chain to another chain around his waist, his hands also being fastened to this iron belt, and thence stretched, to be attached to a heavy pair of iron anklets. This chain, extending from the collar to the anklets, was so short that, if the man could stand at all, it could only be in a crouching position. He was lying doubled up on the floor. From the central chain around his body one proceeded, about three or four feet long, to a staple in the masonry of the wall. His companion was similarly caparisoned, but

he did not suffer the ignominy of being chained to a staple like a dog." Dr. Woodside is too much inclined to regard the circumstances above described as typical, whereas they are in distinct opposition to the published principles of even those American superintendents who do not agree to the entire abolishment of mechanical restraint. He is still more unjust in what follows. "The chief obstacle in the way of the extension and application of non-restraint in the asylums of the United States to-day is not to be found in the character of the patients, as alleged, but in the character of our superintendents. When asylum superintendents cultivate sufficient independence to enable them to cease to be political and social sycophants, to aim at being more scientific physicians, and to take a look at the question from the broad platform of humanitarian justice to the most unfortunate class of their fellow-beings in existence, then, and not till then, are we to expect the attainment of that enlightened course of action which the best instincts of the best men of past and present time have been striving for." To condemn the whole body of American superintendents in such terms because isolated instances such as that above described are found to exist in so broad and, in part, so immature a country as our own, is of a piece with the fanaticism that would call all use of stimulants intemperance. In fact, there is a strong family resemblance among reformers of all sorts. In the mind of such an one, the patient, intelligent, humane labors of our superintendents go for naught. We are told that a class of men whose acknowledged leaders have been such as Wyman, Bell, and Ray, are either brutal bigots or equally brutal hypocrites, who either insist that torture is right, or else, knowing it is wrong, condone and practice it. Dr. Woodside says: "There are a few estimable superintendents who are actually in favor of non-restraint, but who permit themselves to be classed in the opposition, thinking that otherwise they commit themselves

to an absolute policy, and by so doing they lend the prestige of their names to bolster up and continue a record of the most abominable and systematic cruelty." The ground taken by Dr. Woodside and those who agree with him is, in so many words, that "the principle of restraint can not be used without being abused." Here lies the issue. The great majority of those who have the best means of judging repudiate, and will always repudiate, any such dogma, and must expect to be abused in odious terms by their fanatical opponents. Unfortunately, the effect of such abuse is direct injury to the interests of the insane. It alienates those who should be working shoulder to shoulder for true progress. It creates rumor and distrust, so that the friends of patients do not seek their relief in hospital until too late. The avoidance of unnecessary mechanical restraint is good, but it is not a panacea for all evils. The interests of the insane demand a wider and clearer public understanding of the disease; a more discriminating, rather than a larger, expenditure for their care; more physicians and more attendants; minute classification of the insane poor; increased facilities for the individual treatment of those who can afford it; enthusiasm for the special study of the causation and prevention of the disease. It is true, and it is known to thousands of persons who have access to the asylums of this country, that the treatment of patients is generally humane and skillful. The superintendents of our asylums are men held in honor and esteem. Their conduct is open to the inspection of considerable numbers of persons, and they are held to strict account by their trustees. Their duties are harassing, their anxieties are great; there is no reason for regarding them as less conscientious than those who attack them. The general profession can trust them to determine the usefulness of mechanical *methods* of restraint (for there is no such thing as real non-restraint) as well as that of any other therapeutic measure.]

QUARTERLY REPORT ON ANATOMY AND PHYSIOLOGY.*

No. VI.

By AMBROSE L. RANNEY, M. D.,

ADJUNCT PROFESSOR OF ANATOMY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

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2. OSLER, W.—Note on cells containing red blood corpuscles. "Lancet," Feb. 4, 1882.
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* I am indebted to Dr. William C. Ayres for assistance in preparing this report.—A. L. R.

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28. WALLER, A.—Note sur la durée de la systole cardiaque. "Progr. Méd.," May 6, 1882.
29. FRANÇOIS-FRANCK.—Mouvements des veines du cou en rapport avec l'action de la respiration et du cœur. "Gaz. Hebdom.," Mar. 3, 10, Apr. 7, 21, 1882.
30. LESSHAFT, P.—Ueber die Lage des Magens und über die Beziehungen seiner Form und seiner Function. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxvii, 1, 1882.
31. HIS, W.—Erwiderung auf Prof. Lesshaft's Bemerkungen zur Lage und Bewegung des Magens. *Ibid.*, lxxxvi, 2, 1881.
32. LANGLEY, J. N.—On the histology of the mammalian gastric glands, and the relation of pepsin to the granules of the chief-cells. "Jour. of Physiol.," Jan., 1882.
33. LANGLEY, J. N.—On the destruction of ferments in the alimentary canal. *Ibid.*
34. SABOURIN, C.—Considérations sur l'anatomie topographique de la glande biliaire de l'homme; démonstration anatomo-pathologique du lobule biliaire. "Rev. de Méd.," Jan., 1882.
35. GAGLIO, G.—Ricerche sperimentali da servire alla teoria dell' ureagenesi epatica. "Sperimentale," Apr., 1882.
36. ROY, C. S.—The physiology and pathology of the spleen. (First communication.) "Jour. of Physiol.," Jan., 1882.
37. LÉPINE, R., et GUÉRIN.—Note sur le soufre difficilement oxydable de l'urine. "Rev. de Méd.," Dec., 1881.

1. In his article on *a new method of making anatomical preparations and preserving their flexibility*, Park recommends the following solution in which to keep a preparation for the purpose: Coffee-sugar, 2 parts; saltpeter, 1 part; methylic alcohol, 1 part; glycerine, 16 parts. If the preparation be a joint, placed in this mixture, after having been carefully dissected, it will remain as flexible as during life; the thick tendons become almost transparent, and remain so.

2. In his article on *cells containing red blood corpuscles*, Osler says that such cells are normal elements in red marrow, and that it is impossible to connect their presence with any particular disease. He says that he has found them in the following localities: 1. In the connective-tissue cells of the embryo and newborn animals. Here, in all probability, the red corpuscles are in process of development (Schäfer). 2. In the red marrow, of which they form a normal constituent, but, like the myeloplaxes, occur in very variable numbers. 3. In the spleen pulp they are particularly abundant when the organ is rich in pulp, as in the acute swelling of fever. 4. In lymphatic glands, when in a state of congestion and tumefaction, not as a constant feature, but sometimes very numerous. 5. In brown induration of the lungs; part, at any rate, of the pigment in this condition results from the

ingestion of red corpuscles by the cells of the alveolar stroma, in which they gradually undergo transformation into brownish-red grains. 6. In the neighborhood of extravasated blood the connective-tissue cells, fixed and amœboid, are often found to contain red blood corpuscles which can be traced in all stages of degeneration into pigment granules.

4. In their article on *the existence of bacteria or their antecedents in healthy tissues*, Mott and Horsley give the results of a series of experiments which tend to show that bacteria or their germs exist in healthy tissue. The number of these organisms varies with the portion of the body examined. Their results are in accord with those of Tiegel, Burdon-Sanderson, Béchamp, Wencki, and Giacosa, whereas they are contrary to those of Watson Cheyne and Chiene and Ewart. Their methods in some respects are freer from the objections which have been urged against those of other authors.

7. Prochownick's article on *the inclination of the pelvis* covers 95 pages of print, and contains much which can not be noted in the space we can devote to it. He gives hundreds of measurements in tabulated form which have been made upon persons of different nationality, for which we must refer the reader to the original article. He sets two tasks for himself, and carries

them out *in extenso*: 1st. To furnish an easy, exact, and rapid method of making measurements of the living for determining the inclination of the pelvis to a horizontal plane. 2d. To find the application and the results of such a method in connection with the population of Germany. Thus he proposes to make a standard from this nation, and afterward to compare the condition of pelves of the individuals of other nations with it. He points out the sources of error in the methods generally employed, and says that they are three in number: 1, The persons examined are not all placed in the same position; 2, the use of dried pelves; and, 3, the too frequent use of pregnant women in such measurements, since they show different conditions from those who are not pregnant. At the end of his paper he gives a *résumé* under nineteen different heads, among which may be found: 6. The majority of pelves are inclined between 50° and 60° to the horizon. There are about as many between 45° and 50° as between 60° and 65° . He accordingly places the normal for Germany between 45° and 65° . They therefore range within 20° . He places the normal between 50° and 60° , and calls those between 45° and 50° a subnormal zone, and those between 60° and 65° a supranormal zone. Those either below 45° or above 65° he says are to be considered pathological. 8. The axis of the legs makes an angle with the horizontal plane of 80.5° in men, and 77° in women. 9. The angle between the axis of the legs and the pelvic plane is in men 128° and in women 127.5° . 14. The age of the individual has no influence on the pelvic inclination; not so, however, with the constitutional condition. 15. The weaker the constitution, the less the pelvic inclination. 16. The stature has a greater influence on the pelvic inclination in men than it has in women. In men the inclination increases and diminishes with the height.

12. Ott discusses the question of the existence of *cilio-spinal centers*. After giving the literature of the subject he records experiments tending to show that these centers do exist, viz.: After dividing the cord just below the medulla oblongata, he irritated the sciatic, and the pupil dilated about two millimetres. Also, by cutting the left cervical sympathetic and the cord high up, the pupil with the sympathetic intact was more dilated than the other. He tries to de-

termine the path of the dilating fibers by sensory irritation, and arrives at the conclusion that the fibers dilating the pupil run in the trigeminus, and that the seat of the dilatation is there, and not in the seat of consciousness, as held by Schiff. From further experiments, he considers that the ganglia of the sympathetic may exert a tonic influence over the pupil for a short period after they have ceased to have any anatomical connection with the cilio-spinal centers in the cord. He also states that after section of a lateral column the pupil on that side contracted, showing that cilio-spinal fibers run in these columns, and that section removes part of the spinal influence on the pupil.

25. In their article on *the mean pressure and the character of the pulse-wave in the coronary arteries*, Martin and Sedgwick, after relating the particulars of many experiments, say: "We are, therefore, forced to conclude that those are in the right who have maintained that the flaps of the semilunar valve are never pressed completely back against the aortic wall during the systole of the ventricle. Finally, we may point out that the tracings [they give three tracings] show the pressure-changes in the coronary system to be very much like those in any other branch of the aortic system, the carotid, for example. It may be added, in conclusion, that, though forced to differ from Brücke in regard to any interference of the semilunar valve with the circulation of the coronary system, our observation in no way contradicts his teaching that during ventricular diastole blood flowing into the coronary arteries aids in distending the flaccid heart. This is probably true. The complete '*Selbststeuerung*' is, however, no longer tenable; the arteries of the heart are not emptied during the ventricular diastole so as to diminish the resistance to contraction, but are at that time tensely filled. Moreover, as our tracings show, the little increment of pressure during the systole of a single beat, when compared with the entire mean pressure constantly at work in the coronary system, is so small that, after all, not much would be gained by blocking the mouths of the arteries in order to avoid it." Their experiments are the first successful attempts at recording the blood-pressure and its variations in the arteries of the heart graphically.

32. In his article on *the histology of the mammalian gastric glands*, and the re-

lation of pepsin to the granules of the chief-cells, Langley strives to demonstrate the following facts: That the gastric glands in life contain no ferment, but much zymogen, or substance capable of giving rise to a ferment; that by far the greater part of the zymogen can be seen in the chief-cells in the form of granules; that during digestion the granules are usually used up in such a manner as to give rise to an outer non-granular and an inner granular zone in the chief-cells.

33. In his article on the *destruction of ferments in the alimentary canal*, Langley calls attention to the fact that we know that during digestion much saliva and gastric and pancreatic juice flows into the alimentary canal. All of these secretions contain a considerable amount of ferment, chiefly either amylolytic or proteolytic. We know, however, very little of the fate of these ferments. A little of each is found in the feces, a little also in the urine; but these together make but a small fraction of the total which is received by the alimentary canal during digestion. He gives a series of experiments which indicate that the amylolytic ferment secreted by the salivary glands is destroyed by the hydrochloric acid of the gastric juice; that the proteolytic and rennet ferments secreted by the gastric glands are destroyed by the alkaline salts of the pancreatic and intestinal juices and by trypsin, and that the proteolytic and amylolytic ferments secreted by the pancreas are probably not destroyed in the larger intestines by the acids formed there.

36. In his article on the *physiology and pathology of the spleen*, Roy draws the following conclusions: The circulation of the spleen differs from that of other organs in the important particular that the force which impels the blood through the organ is not that of the blood-pressure in the arteries. The splenic circulation is carried on chiefly, if not exclusively, by a rhythmic contraction of the muscles contained in the capsule and trabeculæ of the organ. This rhythmic contraction is exceedingly regular in so far as the rapidity of the rhythm is concerned, varying in any given individual but very slightly, even during an experiment lasting many hours, and in which the condition of the animal has necessarily changed considerably. Roughly speaking, each contraction, with the succeeding expansion, lasts but one minute in the case of dogs

and cats. Changes in the arterial blood-pressure have comparatively little influence on the volume of the spleen, from which it may be concluded that the passages by which the arterial blood enters the substance of the organ are relatively very narrow, and that the pressure of the blood contained in the pulp of the spleen is not so closely connected with that of the arterial blood-pressure as would be the case did the latter play a predominating part in carrying on the circulation through the organ. The rhythmic contraction and expansion of the spleen are different in nature from the rhythmic contraction and expansion which may be observed in various organs on the "Traube-Hering" blood-pressure curves showing themselves. The spleen also takes part in the production of the "Traube-Hering" curves of the blood-pressure, contracting with each rise and expanding with each fall of the arterial pressure, but these contractions are readily distinguishable from those which are proper to the spleen, and which are independent of the changes in the blood-pressure. Very frequently the combination of the "Traube-Hering" contractions of the spleen and the "specific splenic" contractions results in an "interference" curve being described by the instrument which records the changes in volume of the organ. Stimulation either of the central end of a cut sensory nerve or of the medulla oblongata causes a rapid contraction of the spleen. The paths by which such vaso-constrictor influence may travel from the cerebro-spinal centers are various. As has been shown, stimulation of the peripheral ends of both splanchnics and of both vagi causes a rapid contraction of the spleen. After section of these four nerves (the vagi in the neck, and the splanchnics at their point of passage through the diaphragm), stimulation of a sensory nerve still causes a contraction of the spleen, showing that vaso-constrictor influences may pass from the cerebro-spinal centers to the spleen by some other route or routes than the nerves named. The fact that section of the principal nerves which convey vaso-motor influences from the cerebro-spinal centers to the spleen has so little effect on the rhythmic contraction and expansion of the organ would seem to indicate that the latter are regulated and maintained by some mechanism contained in the spleen itself.

Miscellany.

THE CONTAGIOUSNESS OF PHTHISIS.—Dr. Deuteraios ("Γαλπος," November 30, 1880) records two cases which, he thinks, tend to establish the contagious character of phthisis. In one of his cases, a man who had lost his first wife from phthisis married again, and, as a bridal gift, presented his second wife with the garments which the first had worn during her illness. They proved, however, a veritable robe of Nessus for the unfortunate bride, who shortly after succumbed to the disease. The second case was that of a man who developed phthisis a month after the death of a friend whom he had nursed during the course of the disease.

HÆMORRHAGE DUE TO QUININE.—Dr. Kuriatzides (*ibid.*, December 12, 20, 1880) gives two instructive cases occurring in his own practice in which the use of quinine was followed by hæmorrhage, in the one case the blood coming from the kidneys, in the other from the nose. Several analogous cases have been described by others, including instances where the drug produced a hæmorrhagic eruption upon the skin. Quinine, then, according to the author, tends to produce a hyperæmia in all the organs of the body, and, if in any organ the capillaries have been rendered brittle from any cause, in that organ vascular rupture and hæmorrhage may take place. Although hæmorrhage from the use of quinine is most common in debilitated malarial subjects, it may occur in those who have previously been healthy.

COLD IN THE TREATMENT OF PNEUMONIA.—Dr. Lanara (*ibid.*, October 18, 1880) describes a method of treating pneumonia, the most noteworthy point about which is the very beneficial result which he claims to have obtained with the use of cold applications to the chest. These were kept up till the temperature was reduced to the normal figure. The internal treatment consisted of citrate of magnesium and quinine for the first few days, followed up by a combination of opium, anti-

mony, and digitalis. Locally, besides the cold, he employed leeches in the beginning of the disease, and afterward inunction of mercurial ointment and conium.

DIPHTHERIA IN GREECE.—Dr. Makka (*ibid.*, September 6, 13, 20, 27, October 11, 18, 25, December 13, 1880) enters into a minute inquiry respecting diphtheria in Greece; having special regard to the determination of the question, can an epidemic of diphtheria be developed from sporadic cases occurring endemically? This question, he thinks, must be answered in the affirmative, and he believes that we can draw no distinction between the epidemic and sporadic forms of diphtheria, such as obtains for the corresponding forms of dysentery and other like diseases. He substantiates his view by the mortality records of Athens and of other cities, where diphtheria, having occurred once as an epidemic, remained as an endemic disease, which every now and then broke out again as an epidemic [without evidence of fresh importation]. One of the most fatal epidemics occurred in the island of Kea, where the death rate from this cause alone was four and a half per cent. of the entire population. This frightful mortality was ascribed to the way in which the houses were packed together, and to the situation of the city upon a hill-side, by which the natural tendency of the diphtheritic poison to diffuse itself from below upward enabled it to extend from one house to another.

PARALYSIS OF THE DIAPHRAGM.—Dr. Diamantopoulos (*ibid.*, Dec. 20, 27, 1880) reports a typical case of paralysis of the diaphragm, and takes occasion to give a somewhat elaborate description of the disease. This includes an excellent account of the symptoms, with the rationale of their production, an enumeration of the various causes of the affection, and some remarks on the subject of prognosis. In the latter connection he remarks that death usu-

ally occurs, not from asphyxia, but from failure of the heart's action, due to the circulatory disturbances which paralysis of the diaphragm induces. Chilling of the body, brought on by prolonged sea bathing, was the apparent cause of the paralysis in the case which he reports. The patient was almost entirely cured, after four months' treatment, by the application of electricity in the course of the phrenic nerve.

RECENT ADVANCES IN URINARY ANALYSIS.—Among the more or less recent additions to our knowledge of urinary analysis, Löbisch ("Wien. med. Woch.," Dec. 10, 17, 1881) gives the following as the more important. 1. The absorption of carbolic acid in large (toxic) quantities is marked by the disappearance from the urine of the sulphates which furnish a precipitate with barium chloride, the reason being that most of the sulphur compounds have entered into combination with the phenol, and in this state are not acted upon by this precipitating agent. 2. The presence of an abnormal quantity of indican in the urine has been noted in certain wasting affections, as well as in peritonitis and intestinal obstruction. 3. Peptonuria occurs chiefly in connection with suppurative processes in any part of the body and in croupous pneumonia. 4. Chyluria is found in fatty degeneration of the urinary tract, in malignant tumors, especially of the pancreas, in phosphorus poisoning, acute yellow atrophy of the liver, fat embolism, etc.

ALBUMINATE OF MERCURY HYPODERMICALLY.—Gourgues's formula ("Bull. Gén. de Thérap.," Jan. 30, 1882) is as follows: 1 gramme of the corrosive chloride is dissolved in 20 grammes of distilled water. To this add the white of a 20-gramme egg diluted with distilled water to make 20 grammes; agitate the precipitate which is formed, and add chloride of sodium 2 grammes, dissolved in 60 grammes of distilled water; agitate the mixture and filter. Weigh the filtered liquid, and add to it enough distilled water to make a total of 120 grammes. Of this, 1·30 gramme (containing ·01 gramme of the mercury salt) is used for each injection. It is maintained that an albuminate prepared in this way is a much more reliable compound than the peptonate, which is very apt, if kept long, to undergo alteration,

and involves the trouble, besides, of always obtaining peptone of a uniform quality. It is also claimed that the albuminate does not irritate the tissues, is not painful, and does not cause abscesses. The therapeutic effects in syphilis are described as remarkable. The injections were made only once in five days. From six to eight injections sufficed to cause manifestations of the secondary period to disappear. The mean quantity of the mercurial salt absorbed during treatment is stated as from 0·08 to 0·10 gramme.

BICHRIMATE OF POTASSIUM IN SYPHILIS.—In a paper published in 1869, Güntz proposed *bichromate of potassium as a remedy for syphilis*. The suggestion had come to him from France. The new remedy attracted but little attention, and would seem to have been quite forgotten. Its claims to consideration are now represented in a little brochure of some sixty pages ("Die Syphilis - Behandlung ohne Quecksilber," etc., Berlin, 1882). The writer has persisted in the use of the drug as an anti-syphilitic during the past twelve years, with, as he believes, favorable results; indeed, so favorable that he claims to have been able to dispense with mercury entirely. The present paper, however, is mainly concerned with an account of its employment in 85 cases of chancre. The drug was administered in the form of a mineral water, consisting of the bichromate of potassium dissolved in carbonic-acid water. Each 600 grammes of the liquid contained 0·03 gramme of the bichromate, and constituted the daily dose, divided into four portions. This quantity was well borne, while a larger quantity caused vomiting. Of the 85 cases of chancre treated, but 26 developed any evidences of constitutional syphilis. Inasmuch as Güntz believed all of the chancres to be true initial lesions, he naturally regards this result as exceedingly favorable. [We are unaware whether Güntz is a unicist or a dualist, but to a believer in the existence of a contagious, non-infecting venereal sore, the diagnostic marks given, upon which the writer bases his assumption that all these chancres were syphilitic, will appear, as a rule, very inadequate. In several of them which were followed by syphilis an "induration" is mentioned; in very few where syphilis did not follow. In one case

(cited as healed with general symptoms following) the fact is mentioned that pus from a bubo which remained after the sore had healed was autoinoculable. We find but one instance in which "confrontation" was resorted to, and in that instance there was no general syphilis in either of the persons—both being claimed as "cures" under the bichromate-of-potassium treatment.]

CARBOLIC ACID HYPODERMICALLY IN BUBOES.—Taylor, in his interesting article on the treatment of buboes by the hypodermic injection of carbolic acid ("Am. Jour. of the Med. Sci.," April, 1882) reports very noteworthy results. For the abortive treatment of buboes that had not suppurated, he injected from 10 to 30 minims of a solution, 8 to 10 grains to the ounce. When the bubo had already suppurated the pus was aspirated, and the cavity was washed out with a solution of the same strength or a little stronger (up to 16 grains to the ounce). This was followed by the application of a bag of shot of 3 or 4 pounds weight, with the object of causing the walls of the cavity to unite. Where the shot-bag is inconvenient, as in buboes of the axilla or neck, the writer suggests using a potato cut down to fit the locality and secured by wrapping it in a piece of muslin, the free ends of which are twisted and then divided into several strips, each one of which is attached to an elastic band that is suitably adjusted to exert the pressure as desired. In the case of acute and painful buboes the relief of pain which follows the injection is described as one of its most certain and remarkable effects, the carbolic acid acting as an efficient anæsthetic. The rapid curative effect is attributed to disinfectant action, which destroys the septic germs upon which the inflammation is supposed to depend.

INFLAMMATORY SWELLINGS COMPLICATING URETHRITIS.—Mauriac ("Union Méd.," Dec. 13, 20, 22, 1881) describes a rare scrotal form of the inflammatory tumors that may occur along the floor of the urethra, as complications of a urethritis. The tumor develops a little anterior to the bulb, and is projected downward into the scrotum between the testicles. In this situation it may contract adhesions to the testicle or epididymis, and under such circumstances might, without careful

examination, be taken for a growth from one of these organs. Its course may either be extremely slow, extending over a month or more, and then gradually disappearing by absorption, or it may develop more acutely, with the formation of an abscess. In the chronic form there is a large, hard, ovoid, non-fluctuating tumor, occupying the median portion of the scrotum, where, usually, it remains free, though it may become temporarily adherent to the testis or epididymis. There is also a subacute form, which grows pretty rapidly, but undergoes resolution within a few days. The writer holds that these tumors originate in the accessory glands which are distributed about the ducts of the glands of Cowper. When Cowper's glands themselves are inflamed, the affection terminates in a perineal abscess, but the accessory glands, being situated a little farther forward, cause the tumor to appear in the scrotal region. These tumors are not liable to cause fistulæ, even when they suppurate, since they develop well outside of the urethra. With regard to treatment, in the indolent form there need be no haste to interfere. A spontaneous absorption of the tumor may generally be looked for. When the inflammation assumes a more phlegmonous form, an early incision should be made through the scrotal integument, without waiting for fluctuation.

THE EARLY TREATMENT OF PROSTATIC OBSTRUCTION.—Harrison ("Brit. Med. Jour.," Mar. 18, 1882) advises practicing early systematic dilatation of the prostatic urethra in commencing hypertrophy, to prevent obstruction. He calls attention to conditions under which a greatly enlarged prostate may naturally be unaccompanied with interference in urination. Either natural channels may be left in the hypertrophied tissue, or the enlargement may take place only in a direction toward the rectum. He endeavors to induce these conditions by the use of a long gum-elastic bougie which has an expanded portion near the tip (a *bougie à ventre*). This is passed through the prostatic portion at frequent intervals for a long period. If begun early enough, the writer thinks that by this means urinary obstruction may be prevented.

THE RADICAL CURE OF CANCER.—The undersigned, who, in October last, was

delegated to receive competing essays on the subject of the radical cure of malignant disease, announces that three essays were presented. In the consideration of their merits the assistance of Dr. George B. Shattuck, editor of the "Boston Medical and Surgical Journal," was invoked; and it has been decided that no essay is worthy of a prize. The same subject, namely, "The Probability of the Discovery of a Cure of Malignant Disease, and the Line of Study or Experimentation likely to bring such a Cure to Light," is proposed for essays to be presented in competition not later than the first day of December, 1883, to the undersigned, who, with such assistance as he may select, will be the judge of their merits. For the best essay on the subject a prize of one thousand dollars will be given, the right being reserved to withhold the prize in case no essay of sufficient merit be presented. The sum above mentioned has already been deposited in the New England Trust Company, of Boston, subject to the call of the judges. The essays must be legibly written in English, and neatly bound. Each one must bear a motto, and be accompanied by a sealed envelope bearing the same motto, and inclosing the name and address of the writer. They will all remain in the possession of the donor of the prize for convenience of reference, and the privilege is claimed to publish the successful one, with the name of the writer. No writer, however, surrenders the privilege of retaining a copy of his essay, and publishing it. The decision concerning the merits of the essays will be made chiefly from a practical stand-point, it being the object of the donor of the prize to obtain suggestions by which a search for a cure for cancer may be instituted.—For the donor, J. Collins Warren, M. D., 58 Beacon Street, Boston.

GYNÆCOLOGY AT THE COLLEGE OF PHYSICIANS AND SURGEONS.—We understand that Dr. T. Gaillard Thomas has consented to resume his connection with the college, with Dr. Charles S. Ward as *chef de clinique*. We congratulate the Faculty and the students upon this piece of good fortune.

NOTICE TO GRADUATES OF BELLEVUE HOSPITAL MEDICAL COLLEGE.—A second decennial revision of the Catalogue of Alumni of this college is being prepared

for publication, and we are requested to ask that all graduates send their present address at once, on a postal-card, to the historian of the Alumni Association, Bellevue Hospital Medical College, New York, N. Y.

THE LATE DR. JAMES R. WOOD.—The Faculty of the Bellevue Hospital Medical College, desirous of expressing and placing on record their sense of the calamity which has befallen them in the death of their beloved colleague, the late Professor James R. Wood, hereby adopt the following resolutions:

Resolved, That the name of Professor Wood will ever be identified with our college as one of its founders, and to whose services it is greatly indebted for its prosperity and usefulness.

Resolved, That, in the death of our lamented colleague, the medical profession has lost an eminent and loyal member, the community a public-spirited citizen, students of medicine a faithful friend, and his colleagues one whose estimable qualities of mind and heart endeared him to them by the ties of a true brotherhood.

Resolved, That words are inadequate to express the sorrow of the Faculty in the reflection that they will no longer, in this world, enjoy his genial companionship and profit by his wise counsels.

Resolved, That the Faculty sympathize most deeply with the family of their late colleague in the bereavement with which it has pleased Divine Providence to afflict them.

ISAAC E. TAYLOR, M. D., *President*.

AUSTIN FLINT, JR., M. D., *Secretary*.
May 8, 1882.

THE LATE DR. ERSKINE MASON.—*Resolved*, By the Faculty of the Bellevue Hospital Medical College, that in the untimely death of the late Professor Erskine Mason they mourn the loss of a distinguished surgeon and teacher, cut off in the prime of life, having entered upon a brilliant career of honor and usefulness, and of a colleague whom they held in great respect and affectionate esteem.

Resolved, That the Faculty tender to the widow of their late colleague and other members of his family heartfelt sympathy in the irreparable loss which they have sustained.

ISAAC E. TAYLOR, M. D., *President*.

AUSTIN FLINT, JR., M. D., *Secretary*.
May 8, 1882.

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from May 14, 1882, to June 13, 1882.*—MAGRUDER, D. L., Major and Surgeon, Medical Director Department of the Missouri. Granted leave of absence for one month. S. O. 110, Department of the Missouri, June 1, 1882. ===== McKEE, J. C., Major and Surgeon. The extension of leave of absence on surgeon's certificate of disability granted him in S. O. 262, A. G. O., November 10, 1881, still further extended six months on surgeon's certificate of disability. S. O. 122, A. G. O., May 26, 1882. ===== WATERS, WILLIAM E., Major and Surgeon. Granted leave of absence for four months. S. O. 121, A. G. O., May 25, 1882. ===== BROWN, J. M., Major and Surgeon. Having reported at these headquarters, is assigned to duty at Newport Barracks, Kentucky. S. O. 57, Department of the South, May 29, 1882. ===== BROOKE, JOHN, Captain and Assistant Surgeon. To be relieved from duty in Department of the South, when Major Brown shall have reported for duty therein, and to proceed, on July 1, 1882, to Presidio of San Francisco, California, and report in person to the commanding general, Military Division of the Pacific, for assignment to duty in Department of California. S. O. 121, C. S., A. G. O. ===== CALDWELL, D. G., Captain and Assistant Surgeon. Upon completion of packing and turning over the medical supplies at Fort Sanders, to report to the commanding officer, Fort Fred. Steele, Wyoming, for duty as post surgeon. S. O. 56, Department of the Platte, May 29, 1882. ===== O'REILLY, R. M., Captain and Assistant Surgeon, now at Washington, D. C. To report in person to the attending surgeon at this station for assignment to temporary duty in his office. S. O. 124, A. G. O., May 29, 1882. ===== BROWN, PAUL R., Captain and Assistant Surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 121, C. S., A. G. O. ===== MOSELEY, E. B., Captain and Assistant Sur-

geon. Granted leave of absence for four months. S. O. 120, A. G. O., May 24, 1882. ===== SEMIG, B. G., Captain and Assistant Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 121, C. S., A. G. O. ===== REED, W., Captain and Assistant Surgeon. To accompany the troops from Washington Barracks, D. C., and Fort McHenry, Maryland, on their march to the summer camp at Gaithersburg, Maryland, and to remain on duty with them during the encampment. S. O. 104, Department of the East, June 9, 1882. ===== TAYLOR, M. E., Captain and Assistant Surgeon. Now awaiting orders at St. Louis, Missouri, to report in person to the Superintendent Mounted Recruiting Service, for temporary duty at the Cavalry Depot, Jefferson Barracks, Missouri. S. O. 126, A. G. O., June 1, 1882. ===== TESSON, L. S., Captain and Assistant Surgeon. Relieved from duty at the Cavalry Depot, Jefferson Barracks, Missouri, and to proceed on July 1, 1882, to San Antonio, Texas, and report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 126, C. S., A. G. O. ===== DAVIS, WILLIAM B., Captain and Assistant Surgeon. Having reported at these headquarters, will proceed to Fort Totten, Dakota Territory, and report to the commanding officer of that post for duty. S. O. 86, Department of Dakota, May 24, 1882. ===== GRAY, WILLIAM W., First Lieutenant and Assistant Surgeon, Fort Townsend, Wyoming Territory. Granted leave of absence for one month, to take effect the 3d proximo. S. O. 67, Department of the Columbia, May 24, 1882. ===== CARTER, E. C., First Lieutenant and Assistant Surgeon. Having reported at these headquarters, is assigned to duty at Camp Price, Arizona Territory. S. O. 78, Department of Arizona, May 24, 1882. ===== RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Having reported in compliance with S. O. 103, C. S., A. G. O., is assigned to duty at Whipple Barracks, Arizona Territory. S. O. 77, Department of Arizona, May 22, 1882.

THE
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LESIONS OF THE ORBITAL WALLS AND CONTENTS
DUE TO SYPHILIS.*

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UNDER this head will be considered the syphilitic diseases of the bones forming the walls of the orbit, and of the connective tissue and adipose tissue of the orbital cavity, in so far as the two may be connected. No reference will be made to syphilitic lesions of the eyeball or of the adnexa, which are contained in the cavity of the orbit. Disease of the bony walls of the orbit is not a very common manifestation of constitutional syphilis, though it is by no means rare. The lesions which occur here are, 1st, a periostitis or osteo-periostitis, with or without subperiosteal abscess; 2d, gummy tumor or syphiloma of the periosteum; 3d, periostosis, hyperostosis, or exostosis of one or more bones; and, 4th, caries and necrosis, involving more or less of the entire thickness of the bony walls. Clinical observation would seem to afford ground for the belief that the bones of the orbit are not so frequently affected by syphilis as other parts of the bony skeleton, but the dead-house teaches a somewhat

* Read before the New York Academy of Medicine, October 20, 1881.

different story, and I am inclined to think that a more careful and minute examination of the patients in the venereal and surgical wards of our large hospitals would lead us to alter our opinion in regard to the frequency of the occurrence of the bony lesions in this region. Some of the symptoms are slight in severity and transient in duration, and often are not pronounced enough to attract the attention of any one but the patient. These lesions, according to most authorities, belong to the late stages of syphilitic infection, though the most recent investigations seem to point to the existence of two forms of periosteal disease due to syphilis, which are to be distinguished from each other by the intensity of the process, and the period of constitutional infection at which they occur. It seems to be a recognized fact that the cases of syphilitic osteitis and osteo-periostitis developed during the early or secondary period of constitutional infection are much less severe than those observed later. The latter are accompanied not only by subperiosteal and osseous gummata, but also by dense osteitis and necrosis. In the late, as in the early, osseous symptoms of constitutional syphilis, the exciting cause of the bony lesion and of its location is generally found in contusions, repeated bruising, and slight injuries.

Simple syphilitic periostitis or osteo-periostitis occurring as an early or precocious bone lesion is limited to the surface of bone, to the periosteum and superficial layers. Under the periosteum, between it and the bone, are accumulated a large number of round cells, analogous, according to Cornil, to the cells of the embryonic medulla. At the same time the deep layers of the periosteum are inflamed, and contain cells between the fibrous bundles. The neighboring connective tissue generally shows some inflammatory œdema, which accounts for the thickening and swelling observed between the skin and the bone. When the bone disease has lasted a long time, the round cells nearest the surface of the bone, beneath the periosteum, act like osteoblasts during the period of ossification, and, in fact, become such. In other words, from an histological standpoint, simple osteo-periostitis of the bones of the orbit consists in the return of the cells between the bone and periosteum to the embryonic state. The varieties of new osseous products consequent on osteitis and periostitis, such as osteophytes, exostoses, enostoses, and eburnation, constitute the accidents common to all forms of syphilitic osteo-periostitis. The exuberant formation of the new osseous lamellæ may develop under the periosteum exostoses of varying size, and in the bone itself a parenchymatous hyperostosis and eburnation.

The gummy osteo-periostitis is a variety of rarefying osteitis in

which the subperiosteal embryonic tissue takes on the disposition observed in gummata. Gummata of bone are only an intense and limited osteo-periostitis, with destruction of the osseous lamellæ by a rarefying osteitis. Though common in the other cranial bones, they are rare in the bones of the orbit. When a thin section of such a gumma is examined under a high-power objective, there is seen to be a tissue formed of very fine fibers, between which exist round cells with a nucleus, and a small amount of protoplasm. These round cells, from 0.010 to 0.015 of a millimetre in diameter, are, according to Cornil and Ranvier, embryonic cells. Besides these cells, there are other cells of a fusiform or irregular shape, and still others much smaller, apparently atrophied, measuring from 0.005 to 0.006 of a millimetre in diameter, almost entirely filled by their nuclei, and imbedded in a finely granular matrix.

What are called external gummata originate beneath the periosteum, and by pressure gradually detach it from the bone. They also press upon the underlying bone, enter its substance in the form of a cone, the bone becoming infiltrated, and progressive rarefaction going on up to a certain varying point. Then the gumma ceases to advance, undergoes lardaceous or fatty metamorphosis, and finally disappears, leaving in its place a more or less extensive depression in the bone. Pathology teaches that the frontal bone is the region of predilection for these gummata. (See a short monograph by Moscovits, "*De la Syphilis Tertiaire Crânienne*," Paris, 1874.) When a small gumma of the orbital periosteum has formed a cavity in the bone, and the inflammatory process is stopped, the new matter becomes caseous, and atrophies; the peripheral osteo-periostitis heals, and there may be a partial reparation of bone. The cavity is not entirely filled, but the osteophytes developed beneath the periosteum end in a bony neoplasm at the margin of the loss of substance. If, however, the bone is completely perforated, the defect is not filled up by new bone tissue, but by a fibrous cicatrix.

A very interesting case of osteo-periostitis gummosa of the floor of the orbit has been described by Campana, in the "*Giornale Italiano delle Malattie Veneree e della Pelle*," anno vi, 1871.

The patient was a man, aged thirty, who contracted a chancre in his twentieth year, which was followed by inguinal and cervical adenitis, alopecia, pre-sternal and pre-articular pains, with nocturnal exacerbations, ulcers of the fauces, and a pustular eruption on the face and trunk. During the past two years he had had a tumor upon the bridge of the nose, which extended to the inner canthus of the right eye, was at first hard, prominent, and immovable, but after a few months it softened, the skin ulcerated, and a quantity of stringy fluid was discharged. This remained open for two months, and soon after it closed a second

appeared on the floor of the orbit near the outer canthus, which grew to the size of a filbert. Under antisyphilitic treatment this softened and disappeared by absorption, leaving a slight depression in the bone. One year later he began to complain of pain in the right orbit again, which spread to the superior maxilla, alveolar arch, and zygoma; there was slight failure of vision, and some exophthalmus. A tumor could be felt on the floor of the orbit, near the external canthus, which was painful on pressure. This was punctured and a small amount of sero-purulent fluid evacuated. A probe introduced showed caries, but no detached pieces of bone. The next day more pus was discharged, and some detritus. The carious process extended to the malar bone, and a puncture made in the superior gingival fornix gave exit to pus, and carious bone was discovered, opening into the orbital cavity. The patient recovered entirely, by proper treatment, in about two months, and the eye was restored to its normal position.

The two essential signs of syphilitic orbital osteo-periostitis are pain and swelling, the former most intense at night, and sometimes very violent. To these two objective symptoms is added a third, exophthalmus, or protrusion of the eyeball beyond the plane of the orbit, if the bony lesion be extensive or situated deeply in the orbit. The neuralgia, due to a compression of a nerve filament at some point in its passage through a bony canal, is a very common symptom. Osteo-periostitis of the bones of the skull produces a tumor generally broad and flattened. Subperiosteal gummata, extensive and thick, are generally accompanied by inflammation of the skin, long suppuration, necrosis of the portions of bone which remain imprisoned for a long time, and which eventually are cast off, leaving behind, sometimes, great losses of substance. The diagnosis of these gummata is not always easy. If the scalp is adherent at a point to the bone, periostitis is almost certainly present, and, if a tumor is here present, it is certainly a gumma of the periosteum or a periostitis, according as the consistence of the tumor is elastic or bony. According to Hueter, the formation of a sequestrum rarely occurs here, owing to the slight tendency of the periosteum of the bones in this region to the new formation of bone. He admits that the caries in these cases is, however, generally due to the suppuration of syphilomata, and that they are tolerably frequent. His explanation of the process is as follows: The discolored and dead bone, due to the suppuration of a periosteal syphiloma, does not fall off as a sequestrum, but small granulations come from the diploe of the bone, perforate this dead cortical layer and push aside the latter, which necroses in small particles. The syphilitic tissue proliferation does not, however, always end in suppuration, but sometimes forms a sclerosed bony substance, and then we have the syphilitic osteoma. These osteomata are generally smooth, flat, and more like hyperostoses than exostoses.

That these bony lesions are sometimes not recognized in the orbit during life, and are only discovered at the autopsy, is a fact which we are all forced to admit. A single instance will suffice. In the "*Archives de Médecine*" for December, 1845, Hamilton reports the result of an autopsy on a patient who during life had had paralysis of some of the branches of the third cranial nerve. At the autopsy there was found caries of the orbital walls due to periostitis and periostosis in the vicinity of the apex of the orbit, which pressed upon the nerves in question and caused the paralysis.

Though these various lesions of the bony orbit are generally regarded as late manifestations of constitutional syphilis, yet attention has been called to their by no means very rare occurrence as an early lesion, and this is particularly the case with periostitis of the orbit. Much careful study has been given to the early development of osseous lesions in syphilis, especially by Mauriac and Fournier, with reference to their relation to other constitutional symptoms. We know from Mauriac that epicranial periostitis may be one of the first manifestations of constitutional infection, occurring sometimes shortly after the appearance of the initial lesion, even before the appearance of any other constitutional symptom. This periostitis is confined almost exclusively to the periosteum, and, whatever hyperæmic or inflammatory condition of the bone may be present, it is merely accessory, and entirely secondary, to the periostitis. In the adult these periosteal swellings tend to resolution spontaneously, and this can be markedly hastened by proper treatment. They rapidly disappear without leaving any trace. On the contrary, in the hereditary syphilis of children, this form of periostitis very soon assumes the purulent form of inflammation, and ends in the death of the bone. In acquired syphilis this early form of orbital periostitis is circumscribed, varies in duration between four and six weeks when left to itself, and disappears much sooner under proper antisymphilitic treatment. Mauriac admits that these precocious bony lesions are much more common and severe in hereditary syphilis than in acquired syphilis, and in warm latitudes than in temperate or cold latitudes. Such an early lesion in the bones of the skull aggravates the prognosis, of course, though the other constitutional symptoms may be slight. It bears no resemblance to the later periostitis, being much less indolent, lasting a shorter time, tending to spontaneous resolution, and but little to destructive metamorphosis. Moreover, these cases of precocious periostitis are confined to the periosteum, are never followed by hyperostosis or exostosis, and never leave any trace of their presence. Large, hard frontal bosses, which may involve the entire

supra-orbital margin and dip down deeply into the orbit, rapidly disappear under appropriate treatment.

Leaving the subject of the pathology of syphilitic osteo-periostitis of the orbit with this brief and still unsatisfactory statement of our knowledge of it, we come naturally to a consideration of its *symptomatology*. Two forms of inflammation, acute and chronic, must be distinguished. The acute form is almost always a precocious lesion, and the symptoms are apt to be severe. The patient complains of great pain in and around the eye, especially along the superior orbital margin, which is excessively sensitive to pressure, and this has been remarked even when the periostitis was deep-seated and did not involve the orbital margin. The eyelids are red and swollen, the ocular conjunctiva is injected and sometimes chemotic. This latter symptom is much more marked if the orbital cellular tissue is involved. There is more or less protrusion of the eyeball, according as the seat of the periostitis is deep in the orbit or near the orbital margin. The exophthalmus is rarely straight forward, but usually toward one side or downward, owing to the periostitis being confined to one wall or part of the orbit. The general constitutional signs of inflammation are usually severe in acute osteo-periostitis of the orbit, owing to the orbital cellular tissue becoming involved, and then the exophthalmus may be very marked. Another danger is loss of vision by pressure upon the optic nerve in the optic foramen or in the orbit, or loss of the eye by strangulation of the entire blood supply of the eyeball by the infiltrated orbital tissue. Optic neuritis followed by inflammatory atrophy of the optic nerve extending to the sheath of the nerve from the periosteum of the orbit and optic foramen, and simple atrophy of the optic nerve from pressure by the surrounding infiltrated tissues, are not very uncommon results of syphilitic orbital osteo-periostitis. When the orbital cellular tissue becomes inflamed, there is much more probability of the formation of pus in considerable quantity than when the periosteum alone is involved. The pain, which is usually very severe, may occur only periodically at certain times of the day. The attack may be ushered in by a chill, followed by high fever, and all the other symptoms are rapidly developed.

In the chronic form the inflammatory symptoms are far less pronounced, and the disease is more protracted and insidious in its course. The disease in the bone is often developed very slowly and gradually, and, when the inflammation is deeply seated, it is easily overlooked. There may be little or no febrile excitement, but little pain, no protrusion of the eyeball until late in the course of the

disease, and, in fact, scarcely any objective symptom unless the periostitis is located near the orbital margin. Here the œdematous swelling of the surrounding parts, the decided thickening of the bone, and the presence of a hard, indistinctly fluctuating tumor, which is painful and sensitive, all aid in the diagnosis. The chronic form is very often accompanied by the formation of a subperiosteal abscess, which sometimes strips up the periosteum from the bone for a long distance, and tends to end in caries and necrosis of the bone. Osteo-periostitis gummosa is always of this chronic type. The abscess, once formed, tends to open at some point, and this is usually outwardly through the conjunctiva or lid by one or several sinuses; but sometimes the purulent process has been so extensive that caries has occurred in several directions, and here the abscess may open into the nose, the frontal sinus, the maxillary sinus, or, gravest of all, into the cavity of the skull. If the abscess perforate through the conjunctiva, it is almost certain that the seat of the bone lesion is deep in the orbit, for, if the margin of the bony orbit were involved, the opening would be in front of the tarso-orbital fascia, through the lid. If the tendency to suppuration is but slight, the periosteum may become very much thickened, and small nodules or periosteal growths may be developed which may ossify and form true exostoses. These may exist between the periosteum and bone, or, more rarely, these nodules may grow in both directions—outward toward the orbit, and inward toward the bone. One danger which might seem to be imminent very rarely occurs, and that is an extension of the periosteal inflammation to the meninges of the brain through the medium of the optic foramen. It is far more likely to induce meningeal inflammation when the roof of the orbit is the seat of the lesion, for here the bone is quite thin, and a carious process once started in this region may soon perforate the bone and open into the anterior fossa of the skull, leading to meningitis or abscess of the brain.

Though clinical observation teaches us that syphilitic periostitis of the orbit almost always ends in resolution, without permanent injury to the bony walls if properly treated in the beginning, yet sometimes it leads to caries and necrosis of the bone. Where a sinus exists, the introduction of a probe proves the roughness of the bone, and this, with the continued patency of the sinus, proves that the disease has passed from periosteum to bone. Pieces of loose bone, no matter how small, are but rarely found, for, though the bones are very thin, they are hard, and we are more likely to meet with a hole communicating with a neighboring cavity than with splinters of loose bone. Yet even this complication is uncommon,

for the caries is almost always superficial, and the case ends in recovery after the carious bone has lost its roughness and the sinus closes. Caries and necrosis of the bones of the orbit occur most frequently at the margin of the orbit, or at the upper and inner corner of the roof. While most of these cases start with a periostitis or osteo-periostitis, the lesion may begin in some cases as a real osteitis, and involve the periosteum secondarily. These are probably the worst cases, for the lesion is usually situated deep in the orbit, has spread to the bones of the orbit from some other bone of the skull, and involves the orbital tissue, ending in prolonged suppuration. This has been known to spread from a syphilitic ozaena in the nose, extending to the ethmoid cells, thence to the orbital plate of the ethmoid, and finally to the orbital tissue. Here the process is a very chronic one, even under the most rational and persistent treatment, and results in extensive exfoliation of bone and considerable deformity. In these severe cases several sinuses may form in the lids or surrounding structures in different directions, through which pus and small fragments of exfoliated bone may be discharged for an indefinite period, ending either in deeply retracted cicatrices, or in eversion of the eyelids. In some instances, where this extensive disease of the bones in the vicinity of the orbit has gone on to its natural termination independent of any treatment, the adhesions between the bone, periosteum, and external soft parts, as, for instance, the eyelid, have been found so dense and firm that any operative attempt to separate them has been proved impossible. This syphilitic caries of the orbital margin, though usually a late manifestation of constitutional syphilis, has been known to occur among the precocious lesions; thus, Del Toro reports a case of primary caries of the superior orbital margin occurring in a patient five months after the contraction of the initial lesion and without any intervening constitutional symptom. The course of this carious disease of the bones here is always a chronic one, even when it is a precocious lesion, and, though amenable to treatment, a rapid cure can not be expected. A brief report of two or three cases of orbital osteo-periostitis and cellulitis, ending in caries, may serve to illustrate the course of the disease and the destructive changes occasionally resulting therefrom.

The first case was that of a man, aged forty-six, whom I first saw in June, 1875. He had contracted the initial lesion twelve years before, and had had numerous obstinate and destructive constitutional lesions. When I saw him there was an extensive papular eruption on the face, neck, arms, and back. For about five weeks he had had a constant violent pain in the right orbit and temple, for which nothing seemed to do any good. There was marked

exophthalmus downward and outward, the eye being on a plane with the bridge of the nose, but much lower, and markedly limited in motion in all directions, especially upward and downward. There was great swelling of the lids, with marked chemosis of the ocular conjunctiva. The pain was very severe, and the slightest pressure on the orbital margin produced intense suffering. There was well-marked neuro-retinitis, the right eye presenting a typical picture of choked disc with hæmorrhages, and vision was reduced to perception of light. Five years before he had had an attack of caries and necrosis of the upper portion of the frontal bone and the adjacent part of the right parietal, which had lasted seven months, had extended to the external angle of the orbital margin, and had left only the inner table of bone untouched. Prompt antisyphilitic treatment was at once instituted, consisting in gr. $\frac{1}{2}$ of calomel every hour until its constitutional effects began to appear, and then large doses of iron and quinine were administered. On the second day the mercury was discontinued, and then iodide of potassium, gr. xxx, was administered three times a day. Leeches had previously been applied to the temple, and a saline purge given. After five days signs of fluctuation appeared just inside the upper orbital margin, and a free incision gave exit to a small amount of very offensive pus. With the probe, carious bone was discovered in the roof and inner wall of the orbit as far as could be reached. The wound was kept open, and hot applications made. From time to time small particles of bone came away, and once a piece of sequestrum was removed by the forceps, which measured about five mm. long and somewhat less in width, and proved to be part of the ethmoid bone. After a period of nearly three months the man was discharged, cured of the attack of caries, but with total blindness, and pronounced inflammatory atrophy of the optic nerve, due to compression within the orbit. Two months later he had another attack of orbital osteo-periostitis and caries, ending in meningitis, and death.

A second case was in a woman, aged thirty-two, in whom the date of the initial lesion was unknown. There had been a large ulcer on the right patella ten years before, which remained open six years. Subsequently she had ulcers on the fauces and pharynx, and at the same time dacryocystitis on the right side, with stricture of the nasal duct. This opened externally along the side of the nose, and a fistula has remained ever since. Caries of the orbital margin next appeared, which involved the malar bone, the ascending process of the right superior maxilla, and the floor, roof, and inner wall of the orbit, so extensively that a probe could be passed into the maxillary sinus, ethmoid cells, superior nasal meatus, and frontal sinus on the right side. There was also extensive disease of the nose, and an irido-cyclitis gummosa. While under treatment she developed symptoms resembling meningitis most strongly, but they lasted only a few days, and then she began to improve. This patient eventually recovered, but only after about eighteen months' treatment.

The rapidity with which caries follows periostitis of the orbit, regarded as a late manifestation of syphilis, is well shown in the following case:

A gentleman, aged thirty-six, who had led a dissipated life from early youth, was first seen by me in November, 1874. He had contracted a chancre twelve years before, which was followed by lesions of the glands and skin of rather a mild character. Six months later he had double iritis, which lasted seven weeks, and left the vision in the left eye very defective. Ten days before he presented

himself to me he was attacked by a severe pain along the margin of the right orbit, which rapidly extended to the malar prominence and zygoma, and thence to the articulation of the inferior maxilla and roof of the mouth. When I saw him the signs of orbital periostitis were extremely well marked. The exophthalmus and convergent squint were pronounced, all the tissues were very much swollen and very sensitive, there was great difficulty in opening the mouth, the lids were swollen, and the eye pushed upward and inward. The periostitis evidently involved the floor and outer wall of the orbit, the malar bone, and zygoma, and had spread to the superior maxilla, and perhaps to the lower, and within a period of ten days. In spite of urgent and rapidly pushed antisyphilitic treatment, the disease progressed, subperiosteal abscesses formed in the floor of the orbit and over the malar prominence, and opened, one through the conjunctival cul-de-sac, the other through the skin of the cheek, and the bone in both places was found roughened and diseased. In the course of a few days the caries in the floor of the orbit opened into the maxillary sinus, and that in the malar bone extended superficially in every direction. The carious process was finally stayed by large doses of potassium iodide, but not until the entire floor of the orbit and part of the outer wall necrosed, and either came away or were removed. It is not often found necessary to resort to operative interference in cases of caries and necrosis due to syphilis; but in this case the caries was so extensive as to endanger the preservation of the eye, if not of life itself, and it seemed wise to enlarge the openings of the sinuses leading down to the seat of disease, and remove what pieces of bone could be found loosened. In this way the entire orbital plate of the superior maxilla was removed in three pieces; several small pieces were also removed from the orbital edge of the malar bone, and one from the external angle of the frontal bone. This patient subsequently made a good recovery.

Just how far it is justifiable to operate for the removal of carious bone in the orbit is a somewhat difficult matter to determine. Cases have occurred in which the carious process has involved the ethmoid bone and roof of the orbit, and has opened into the ethmoid cells and into the cavity of the anterior fossa of the skull. In the latter case the condition of the patient is desperate, for the purulent process in the bone may extend directly to the meninges and kill the patient, or some loosened fragments of bone may set up meningitis by irritation of the meninges, or the carious process in the bone may develop a subdural or a cerebral abscess, even without perforation of the roof of the orbit, through the media of the fine foramina for the passage of the nutrient blood-vessels. It would seem safer and better surgery to remove all pieces of loosened bone, even from the roof of the orbit, through a free opening, thus doing away with one source of cerebral irritation and bringing about free drainage. If it is the ethmoid that is involved, and internal medication does not put a stop to the carious process, we should not hesitate to remove as much of the diseased bone as can be reached, even if we open into the ethmoid cells. Suppuration would almost inevitably

be established here, even if the dead bone were not removed, and by removing the carious fragments we do away with one source of continuous irritation, and also render easier the introduction of a drainage-tube or threads through the nose, which is a very necessary procedure. The same thing holds true of the lachrymal bone, which, however, is not so frequently the seat of carious disease as the ethmoid, unless from chronic dacryocystitis and disease of the nasal duct. Extension of the carious disease from the nasal fossæ to the lachrymal and ethmoid bones is not an uncommon occurrence, but it seems better to consider the latter complications as more properly belonging to the category of diseases of the lachrymal apparatus, and this is particularly the case with the lachrymal bone.

Perhaps the most interesting cases of syphilitic orbital disease to the clinical observer are those which present the results of chronic hyperplastic bone disease, such as periostosis, hyperostosis, and exostosis, both on account of their rarity and of the possible resulting deformity. There seems to be still some doubt as to the pathogenesis of periostosis, pathologists being divided in opinion as to whether it is the natural result of a plastic periostitis, or whether it is a distinct pathological process in itself. It is certainly a rare process in the orbit, where periostitis syphilitica usually either yields to treatment and leaves no trace of its presence, or else ends in supuration and caries. Periostosis here is probably a chronic periostitis which has ended in induration or sclerosis, forming a tumor, more or less circumscribed, along the orbital margin, and very rarely occurring in the deeper parts of the orbital cavity. Ricord believes in the existence of three kinds of periostosis—inflammatory, gummy, and plastic, of which the last is probably merely a stage of the first. He cites but one case of the gummy variety, occurring deep in the orbit on the nasal side, and which was probably nothing more than a periostitis with the formation of a subperiosteal gumma. It is probable that the process is simply a thickening of the periosteum, and that the term node would apply equally well to circumscribed periostoses of the orbit, as in other parts of the body. They never occur as precocious lesions of syphilis, but are late manifestations, the result of long-continued plastic inflammation, originating, probably, in the periosteum and confined to it, and only in isolated cases ending in ossification. They are generally sensitive to pressure, and painful at certain periods of the day. If they happen to occur in the vicinity of the supra-orbital or infra-orbital foramina, there is more or less trifacial neuralgia all the time, which increases in severity as the periostosis spreads. Though rare under any circumstances, and almost always observed along the orbital margins, it is

probable that they occur deep in the orbit, at or near the apex, and around the optic foramen, oftener than we have supposed. It is probable that many of the cases of paralysis, partial or complete, of one or more of the extrinsic muscles of the eye, coming on somewhat gradually, are due to a periosteal node pressing on the muscle or its nerve branch in its course or near its origin, producing at first paresis and then paralysis by direct pressure as it grows. Such a node, growing from the periosteum at the extreme bottom of the orbit, might, if of any size, easily involve the origins of all the straight muscles of the eye, and this without any very great projection into the cavity of the orbit. Of course in such an instance the optic nerve would probably also be involved, and there would be atrophy of the nerve fibers, perhaps preceded by neuritis descendens. These cases the writer believes are not so very uncommon, and they offer a plausible explanation of the reason why so many cases of paralysis of the ocular muscles in syphilitic patients are not cured by well-directed antisyphilitic treatment. The periosteal thickening goes on gradually, involving the origin of the muscle or its motor nerve branch, until the latter becomes atrophied from compression, and then, although in favorable cases the periostosis may be absorbed by treatment, the mischief has been done and the paralysis is permanent. Another symptom which may be produced by periostosis deep in the orbit is exophthalmus. This form of periostitis, involved in periostosis, does not tend to spread, and hence is but little likely to involve the orbital tissue. Any projection of the eyeball is here due to the periostosis itself. Furthermore, there are no signs of acute inflammation, no constant pain in the orbit, and no sensitiveness to pressure along the orbital margin. On pressing the eye backward pain is experienced, but the process may go on from the beginning without any pain, and the patient's attention may first be attracted by the exophthalmus, more or less limitation of motility of the eye, then diplopia, or double vision, and finally impairment of vision.

Hyperostosis is the rarest of all affections of the bones of the orbits. It differs from periostosis in being a disease of the bones themselves primarily, and not of the periosteum, except secondarily. It was formerly supposed that it was the consequence of an arrest of inflammation in the bone before necrosis set in, but it is now known that the thickening of bones may go on for an indefinite period after the cessation of all symptoms of inflammation, and it is possible that hyperostosis may occur without any inflammatory symptoms. The process may affect the entire thickness of the bone, and in the orbit this would probably be the case. The excessive

development of one or more of the bones of the orbit would produce very singular changes in the shape of this cavity, the most marked symptom being exophthalmus. There are very few cases of this sort in literature, and the writer has seen but two in the course of thirteen years, one of which was probably not due to syphilis. (See "New York Medical Journal," November, 1879.) The other case was in a man, aged forty-nine, who had been syphilitic for seventeen years. The hyperostosis involved the adjoining portions of the frontal and malar bones on the right side. It had been of slow growth, painless, extended slightly backward from the margin of the orbit along the outer wall and floor of the orbit, and had pushed the eye toward the median line, and slightly outward. The latter was somewhat impeded in its motions, but not markedly so. The patient stated that the growth of the bone had extended over a period of about five years. His constitutional symptoms had been severe, and he had had repeated attacks of iritis in both eyes, with the development of a gumma of the ciliary body in the right eye, resulting in very defective vision. The treatment instituted seemed to have no effect in diminishing the hyperostosis, though there was apparently no increased thickening while the patient was under observation, a period of eight months.

This hyperostosis is a hyperplasia of bone, and is distinct from exostosis; it is of ivory hardness, and never yields to any constitutional treatment. It is more often due to some other cause than syphilis. Any operation for its removal is only justifiable when its mechanical presence as a hindrance to the functions of the eye demands it, and its removal is then best effected by a mechanical drill, such as the dentists use.

There remains the subject of orbital exostoses, due to syphilis, to be considered. Under this head are meant those outgrowths from the periosteum or bones of the orbital walls toward the orbital cavity. These exostoses differ from the swelling and projection of periostosis in size and shape, and somewhat also in location. Though occurring in all parts of the orbit, they are more frequently met with on the inner wall, and near the margin of the orbit, than in the direction toward the apex of the cavity. They are usually smaller than a periostosis, with a narrower base, but project more into the cavity of the orbit. They do not differ in their growth and appearance from the exostoses due to other causes, are always covered by periosteum, and frequently do not involve the subjacent bone at all. They are more frequent than the periostoses, and much more so than hyperostoses, in the orbit, as elsewhere in the body. The pathology of these outgrowths is not always clear. They may develop

in consequence of long-continued chronic periostitis, just as periostosis may be caused, and the two lesions may exist simultaneously in the same case, though the periostosis is almost always the earlier in appearance of the two. They may, however, occur alone, as direct outgrowths from beneath the periosteum, without any tendency to periostosis, and sometimes without any signs of periostitis, unless it be a circumscribed inflammation. If they are situated deeply in the orbit, the most marked symptom is exophthalmus. The os planum of the ethmoid bone is a favorite seat of exostoses, and there may be several, all small, growing from this bone into the orbit. Where they occur anteriorly and admit of digital examination, they are recognized as hard, smooth elevations, with circumscribed base, not usually painful on pressure, but generally causing pain from pressure upon the eyeball or upon the nerves within the orbit. Though usually slow in growth, and a late manifestation of constitutional syphilis, they may advance rapidly in size and be accompanied by some of the signs of acute localized inflammation. Several of these small exostoses have been known to appear on the inner wall or floor of the orbit, and, after pursuing a short, isolated existence, have coalesced to form one large projection, which interfered seriously with the movements of the eyeball. The more deeply in the orbit these exostoses are situated, the more apt are they to escape attention, unless of so large a size as to cause protrusion of the eye from the orbit. When near the apex of the orbit, their pressure upon the ciliary nerves or the ophthalmic branch of the trifacial causes deep-seated pain, which may be located in the cavity of the skull, and excite suspicions of the presence of an intracranial tumor, or periostitis, or perhaps meningitis. If the pressure is so extensive or continuous as to interfere with the return circulation from the eyeball, the ophthalmoscope might reveal the presence of neuro-retinitis with choked disc, or an atrophic condition of the optic papilla, both of which conditions might go far toward strengthening the suspicion of serious intracranial trouble. The history of the patient's syphilitic lesions and the favorable results of a rigid antisiphilitic treatment in the subsidence of the symptoms would perhaps aid us in locating the disease within the orbit, though all the symptoms might have been caused by an exostosis at the base of the skull, except the exophthalmus.

Of course, the treatment of these cases should always be constitutional, at least at first. Though less favorable results are gained from medical treatment of exostoses than of periostitis, yet sometimes they disappear in the orbit very rapidly under the combined use of mercury and potassium iodide. For this reason a very care-

ful examination should be made into the previous condition of the patient as to other syphilitic manifestations. Very often exostoses in the orbit will, on careful examination, be found to be accompanied by bone lesions elsewhere in the body, or to have been preceded by a chronic periostitis with no very pronounced symptoms. The following case well illustrates this :

A patient, Charles R., aged forty-five, a blacksmith, presented himself with slight exophthalmus downward and outward, as well as forward, on the right side. There had been no pain of any kind for seven or eight months, but at that time he had complained of some deep-seated pain in the orbit, which, however, lasted only a few days, then disappeared and did not return. The exophthalmus was first noticed about two months before, but he paid very little attention to it until he began to see double. The diplopia was crossed, as might have been expected from the position of the eye. Vision was normal, and there was no ophthalmoscopic evidence of disease. A careful examination with the finger and a stout probe revealed an exostosis of considerable size projecting from the orbital plate of the ethmoid bone, and another, smaller one, projecting downward and backward from the frontal bone, at the upper and inner angle of the orbit. This patient also had a number of dense, painful nodes along the crests of the tibiæ, and two somewhat sharp exostoses on the upper and outer surface of the right clavicle. The initial lesion had occurred eighteen years before, and he had had numerous constitutional lesions; the nodes on the tibiæ he had noticed for nearly two years. These orbital exostoses diminished very much in size under large doses of potassium iodide, and the exophthalmus almost entirely disappeared, but the patient withdrew himself from observation before the treatment was concluded.

It sometimes becomes advisable, and even necessary, to resort to operative interference for the removal of these orbital exostoses when internal treatment has failed in causing their disappearance by absorption. Generally a pair of strong bone-forceps will suffice to remove them, as they usually have but a narrow base; but sometimes it becomes necessary to employ the chisel and gouge. The following case is an example :

A man, aged sixty, with posterior synechiæ and a pupillary membrane in one eye, from repeated attacks of iritis, presented himself for treatment with exophthalmus of the other side, and great pain deep in the orbit and along the lower margin. The protrusion of the eye was forward, outward, and a trifle upward. An examination showed a large exostosis on the inner wall of the orbit, near the margin, and two small ones, close together, on the floor of the orbit. The initial lesion had been contracted twenty years before. A course of rigid treatment was at once instituted, the potassium iodide being increased in amount rapidly until the patient took two drachms three times daily, which he bore very well. Under this, and a full tonic course of treatment and diet, all acute symptoms subsided, and the exostoses on the floor of the orbit disappeared; but no apparent effect was produced on the large one attached to the inner wall, except that it appeared somewhat flatter and smoother. It was

deemed best to remove it by an operation, and this was done through the skin of the upper lid by detaching the inner half of the upper lid from the orbital margin, enlarging the opening into the orbit with the finger, and applying a strong pair of bone-pliers to the base of the exostosis. A slight rocking movement of the forceps brought away the growth, and a part of the orbital plate of the ethmoid with it, and the ethmoid cells were laid open. A small rubber drainage-tube was introduced and brought out through the skin at the side of the nose. Somewhat free suppuration followed, but the wound eventually closed and the exophthalmus receded entirely, though the eye was somewhat limited in its motions laterally, and there remained a partial ptosis.

A CASE OF POST-PARALYTIC CHOREA, WITH REMARKS ON THE TREATMENT OF CHOREIC SYMPTOMS IN GENERAL.*

BY A. D. ROCKWELL, M.D.,

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ALFRED B., a lad aged eight years, was sent to me February 11, 1882, by Dr. William C. Wile, of Sandy Hook, Conn.

A year previously (February, 1881) he suffered from an attack of acute articular rheumatism, which affected the joints of the right side more severely than the left. As the inflammation subsided, it was found that there was a very considerable paralysis of the limbs of the side most affected, and within three weeks the paralyzed members, together with the muscles of the face, became decidedly choreic. At the time he came under my observation the right leg and arm were very weak, and the choreic disturbance so marked that he could not carry a glass of water to the mouth without spilling. According to the parents, the co-ordinating power was impaired in about the same degree as immediately after the onset of the disease. The speech was somewhat hesitating, and the right pupil was dilated.

Physical examination revealed a distinct systolic murmur, proceeding probably from the mitral valve, a noticeable feature of which murmur was that it was inconstant, disappearing and reappearing without evident cause. The treatment carried out in this severe and chronic case was:

1. The application of ether spray to the spine.
2. The internal administration of the fluid extract of conium.
3. Central galvanization.

Under these three therapeutic influences the boy steadily improved, and in ten weeks was discharged as cured.

In regard to the efficacy of ether spray I am in doubt, but am inclined to regard it as of but little value. In two cases of chorea where the measure was exclusively attempted, in one instance for two, and in another for four weeks, there was but little, if any, modification of the symptoms. Another reason which leads me to

* Read before the American Neurological Association, June 22, 1882.

believe that its therapeutic power is not very great lies in the fact that out of a very considerable number of cases of chorea that I have treated, both with and without the spray as an adjunct, the choreic symptoms have seemed to subside as readily in one instance as in the other. There has been, however, so much testimony to its value, and the operation is so easily performed by the friends of the patient at home, that I usually approve of its use. The relatives, moreover, feel that they are doing something, and the influence upon the morale of the household is not a little.

I have much more confidence in the efficacy of conium, but, in face of the numerous remedies, each one of which has at times been proclaimed to be the best, I hesitate to speak in very positive terms. As has been said of iron, zinc, arsenic, strychnia, etc., so perhaps it might be remarked of conium, "that it is the readiness with which the ordinary case of chorea tends to recover, quite as much as the efficiency of the remedies, that has given them such repute in this condition. In the case under consideration I began with five-drop doses of the fluid extract thrice daily, adding a drop each day, until the dose reached twenty-five drops. My reasons for regarding conium as occasionally of positive value in the treatment of chorea in its more chronic form is because of evident amelioration of the symptoms that have followed its exclusive use in several of my cases, and because of the very favorable contrast in the rapidity of recovery of those cases where it was given as an adjunct, to those where it was not administered. Although in the beginning the dose should be small, yet it should be pushed to a much higher point than is generally done.

In regard to the value of electrical applications, my views have in many diseases been variously modified, but, in regard to their efficacy in chorea, the same opinion that I gave a dozen years ago I still hold, and, with this added experience, claim the same position for it in its relation to this disease as at that time. And yet there is much adverse testimony as to its value.

Von Ziemssen, while "admitting that the galvanic current is greatly praised by most electro-therapeutists, as Remak, Benedikt, Rosenthal, Onimus, Meyer, and others, for its quieting effects upon the muscular contractions, adds that he has not had similar success. In four cases carefully treated with daily applications of a weak current along the spine, no improvement worth mentioning occurred."

Hamilton says: "Electricity I have no faith in, except, perhaps, when the so-called general faradization is used as a cutaneous and muscular stimulant."

Hammond writes: "I have used both the primary and induced currents in many cases. In my opinion they are inefficacious, except in that form in which there is a distinct paralysis."

Putzel remarks: "I resorted to this plan of treatment in three cases, but without obtaining the slightest improvement. Numerous observers have employed the constant current to the spine in treating chorea, but the large majority concur in the opinion that it is entirely useless, or that its temporary sedative effects soon disappear."

I can account for these unsatisfactory results only on the ground of a possible incompleteness of the methods of application, or a lack of persistency in the efforts made. I presume that I shall not be contradicted when I assert that electro-therapeutical measures should be, to a large extent, matters of detail, and that in few diseases is this attention to thoroughness of treatment more imperative than in chorea. Localized applications will not as a rule command success. General faradization and central galvanization I believe to be the essential methods of procedure; and these, when attempted, should be carried out with as much care and precision as other important processes.

After thoroughly wetting the hair, my method is, in central galvanization, to apply to the head a sponge-cap electrode sufficiently large to cover almost its entire surface.

The current is then gradually increased, without interruptions, to the point of easy endurance. In the case that I have related I habitually made use of thirty to thirty-six zinc-carbon cells, or, to speak more accurately, a current strength of about forty-five volts.

I should be sorry if, through this statement, any one should use through the head of a child, or even that of an adult, a current of the same power without due precaution in regard to the *size* and *position* of the electrodes, and to the gradual increase and as gradual decrease of its strength.

By attention to these points, however, much can be accomplished that would otherwise be impossible.

In the case of this patient, the fact that both rheumatism and paralysis preceded the chorea would suggest embolism as the cause; but the rapid cure militates against this, although it is possible that minute embolisms may have been resolved spontaneously, the subsequent chorea being the result of the shock to the nervous system. As we may have a distinct cardiac murmur in chlorotic conditions and in some of the sequelæ of acute diseases, so it existed here; but the fact that it disappeared as the patient improved was sufficient evidence of its functional character.

Two interesting and ingenious theories have been suggested as to the cause of functional cardiac murmurs, and especially when they are associated with chorea.* The first is that there is a "want of correspondence between the fibers of the ventricle which obliterate the cavity and those which close the valve—i. e., the impairment of co-ordination, which is manifested in the muscles generally, extends even to the action of the heart. This murmur is distinguished from organic murmurs from the fact that its character is changeable, sometimes disappearing altogether in the upright condition." In the case that I have just considered, this characteristic was especially marked. The second theory is that this murmur is due "not so much to a want of co-ordination in the action of the muscular fibers as to atony or debility of the walls of the left ventricle."

It holds, further, that weakness and relaxation of the papillary muscles may cause mitral regurgitation. Immermann † is very positive in his opinion that dynamic murmur is dependent on muscular paresis. He says: "The muscular tissue of the heart, owing to the altered state of the blood, is easily fatigued, and this liability to premature fatigue extends to the papillary muscles connected with the auriculo-ventricular valves. After any undue exertion of the cardiac muscles a temporary paresis of the muscoli papillares ensues. In consequence of this, the valve-flap intrudes into the auricle with every ventricular contraction—that is, a transient functional insufficiency of the tricuspid and mitral valve is established. As the organ regains its normal energy, these grow fainter, and ultimately disappear." This description of Immermann is applied more especially to anæmia, but in all its essential features might be applied as well to chorea.

THE TREATMENT OF HÆMORRHOIDS BY INJECTIONS OF CARBOLIC ACID.‡

BY CHARLES B. KELSEY, M. D.,

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IN opening the discussion this evening on the treatment of hæmorrhoids I shall be compelled, by the shortness of the time allotted, to confine what I have to say to one only of the many

* "Brain," iv, 2, p. 180.

† Von Ziemssen's "Cyclopædia," vol. xvi, p. 399.

‡ Read before the New York Clinical Society, April 28, 1882.

methods at the disposal of the surgeon, and shall, therefore, call the attention of the society simply to the treatment by injections of carbolic acid.

I have selected from my case-books of private and infirmary practice the following four cases from those in which a record of the results of this plan of treatment has been kept. Taken together, they illustrate many of the favorable points, and some of the unfavorable ones, connected with it; and from them a very fair idea of its value may be gained.

CASE I.—Male, aged thirty-nine. This was an ordinary case of prolapsing internal hæmorrhoids, of about six months' duration, in an otherwise healthy man. The tumors were well developed, bled freely at each motion of the bowels, and were usually reduced by the patient without much difficulty. The injection used was one part of pure carbolic acid to three of glycerine and three of water; and of this five minims were injected into each tumor. In the course of three months four injections were made into four different hæmorrhoids. Only one of them was followed by any pain or soreness, and at the end of the time named the patient was discharged cured, there being no longer any bleeding or descent of the tumors at defecation. This man was a fireman, and at no time during the treatment was he unable to attend to the active duties of the service.

CASE II.—Male, aged thirty-eight. In this patient anything like a cutting operation was out of the question. He had been a hard drinker for years, and was suffering from phthisis, Bright's disease, and contracted liver. The hæmorrhoids were of long standing, were large and vascular, and the sphincter muscle was so relaxed that the whole circle of mucous membrane prolapsed with them. At the time when he applied for treatment the patient was evidently suffering from the continued loss of blood which they occasioned. He was under treatment three months, and during that time six injections were made of the same strength as the last. Each one was followed by sloughing of the tumor. The pain was not, however, so great as to counterbalance in the sufferer's mind the relief he experienced from the cessation of the bleeding and the decrease in the size of the protrusion, and the treatment was gladly persisted in by him till in the end he considered himself as entirely cured, and ceased to attend.

I have no doubt that in this case the sloughing of the tumor, which each time left a sore after the injection, was directly due to the patient's miserable general condition. During the whole treatment he was sustained by generous diet and tonics, and in the end the case turned out very satisfactorily. It was about the only plan of radical cure which I should have been willing to try on such material, and but for it I should have confined myself strictly to palliative measures.

CASE III.—Male, aged fifty-two. In this case the general health was excellent, and the hæmorrhoids, though well developed, caused little trouble—so little that the patient would scarcely have had them treated had I not assured him that by this method I could almost promise him a speedy and painless cure. I do not think the gentleman ever gave me credit for meaning to deceive him, but he never

gave me an opportunity to make a second injection. The first one did very well for forty-eight hours, at the end of which time I received a telegram that he was suffering great and constantly increasing pain. I went to him, and found, as I supposed I should, that the hæmorrhoid had sloughed, and, the sphincter being strong, his sufferings were really no light matter. Suitable treatment with laxatives, anodyne suppositories, etc., was at once instituted, but the pain continued for several days, and he finally went off to the mountains and remained till the ulcer healed. Needless to say, he declined to continue this "painless" cure.

The injection used was the same as in the other cases—one part in seven—and I will say in passing that from that time I have ceased to use it in that strength.

CASE IV.—Male, aged fifty-three. In this case also the patient was in fair general condition. The hæmorrhoids were large, prolapsed regularly on defecation, and the sphincter was dilated. I was first called to see him in the middle of the night, when the mass was down and could not be replaced, and, after a suitable interval of rest, I began the use of the acid. This was followed very cautiously at intervals of one week between each injection, and in a very short time the relief was very manifest in the diminution of the bleeding and in the size of the prolapsing mass. After the second injection, the protrusion never recurred. After about three months the patient seemed to be entirely cured, and had abandoned the bottle of olive oil which he always kept in his bath-room to help him reduce the tumors after defecation; and also the pad and bandage which he had worn for years, for there was a decided prolapsus in this case in addition to the hæmorrhoids. The sphincter was also decidedly tighter—so much so that the patient felt the change in the defecation, and was at one time considerably troubled because the anus seemed to him to be gradually closing. The injection used was one half the strength of that employed in the other three cases. At no time was there any pain caused by the treatment, and the most that the patient ever complained of was a slight "nipping" sensation beginning about half an hour after the injection, and lasting about an hour.

Here, then, was an old case of large prolapsing hæmorrhoids in a private patient, who would submit to nothing which he considered as surgical treatment, apparently cured without any pain, without any of the usual accessories of an operation, and without a day's detention from his ordinary pursuits—a result for which surgery has been searching a long time. I say *apparently* cured, for the one doubt which remains in my own mind regarding this treatment is as to the *permanency* of the cure. This I have not as yet had time to test. I have seen nothing to make me doubt its being permanent; and, considering what Vidal has accomplished with injections in cases of long-standing and extensive prolapse, I see no reason why it should not be permanent; but I have not as yet had a chance to examine any of my own cases after an interval of years, which is the only way of positively deciding the question.

Beginning this plan of treatment, as I did, without very much

confidence in it, and with the fear of causing great pain, and, perhaps, dangerous sloughing, constantly before me, I can only say that the method is constantly growing in favor with me personally, and that the more I practice it the more confidence I gain in it. With solutions of proper strength the danger of causing sloughing of the tumors is very slight; and I am not at all sure in my own mind that once more surgery is not indebted to the quacks for a valuable discovery, which may do much to modify the at present accepted plans of treatment of this disease. There are no objections to this method which do not apply equally to others. I have once seen considerable ulceration result from it in the hands of another; but I have seen an equal amount follow the application of the ligature; and I do not consider this as a danger greatly to be feared when injections of proper strength are introduced in the proper way. It is applicable to all cases; is especially adapted to bad cases; and may be used, as in the second case, where a cutting operation is inadmissible. It acts by setting up an amount of irritation within the tumor which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hæmorrhoid. Except when sloughing occurs, the tumors are not, therefore, removed, but are rendered inert, so that they no longer either bleed or come down outside of the body. In cases in which the sphincter has become weakened by distension, the injections will also have a decided effect in contracting the anal orifice, as do injections of ergot or strychnine in cases of prolapsus.

I have used this method of treatment now many times, and have never, except in the third case reported here, had reason to regret using it or to be dissatisfied with its results, as far as I have been able to follow them. Although I should be very slow to advocate any one treatment of this affection to the exclusion of all others, I now generally adopt this from the outset in each case, reserving Allingham's operation for any in which the injections may fail. As yet I have met with no such case. Its advantages over all other methods, provided its results prove equally satisfactory, are manifest to all. The patient is not terrified at the outset by the prospect of a surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly, and almost without his consciousness. The method requires some practice and some skill in manipulation, in getting a good view of the point to be injected, and in making the injection properly; but this is soon acquired; and I am more and more convinced that the fear of producing ulceration, which was the one thing which kept me from using it for a long time, and which now keeps many others

from doing the same, is an exaggerated one; and that when ulceration is produced it is a result either of a solution of too great strength, or of one improperly administered.

It will be observed that in the cases reported the length of time during which the patient was under treatment was in each case, except the second, about three months. I have no doubt that this could be much shortened were it necessary, but where the patient is at no time confined to the house, time is of little consequence, and I seldom repeat the applications oftener than once a week, preferring to see the full effect of each one before giving a second. Still, were there any reason for haste, I should not hesitate to shorten this interval, and I am led to believe that in the hands of the quacks the time is considerably shortened. I believe, also, that with them it is the custom to produce a sloughing of each tumor by the strength of the injection, and once or twice I have had patients come to me in this condition. But no such use of the acid is necessary to effect a cure, and this result is one which I try very carefully to avoid.

The point, then, which I wish to bring before the society this evening, and upon which I should be very glad to elicit a full expression of opinion and experience, is simply this. That in the injection of carbolic acid the profession is in the possession of a safe, reliable, and painless means of radically curing hæmorrhoids; and that this method compares favorably in its results with all others of which we have any knowledge, and in its performance has many advantages over them.

"THE MADISON," No. 25 MADISON AVENUE.

PUERPERAL SEPTICÆMIA TREATED WITH PHENIC ACID.*

By WILLIAM M. POLK, M. D.,

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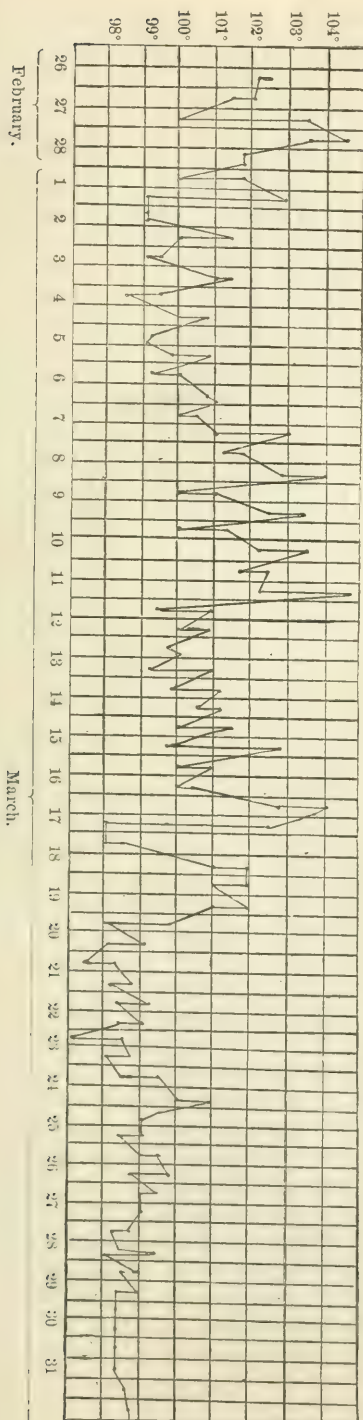
THE following case seems of interest in the matter of treatment, which was begun after the usual method—intra-uterine injections, large doses of quinine, etc. At first there was a decided amelioration of the patient's condition, but afterward this treatment produced no effect whatever; forty or fifty grains of quinine during the twenty-four hours, aided by cold affusions, uterine douches, etc., failed to control the temperature. The House Physician, Dr.

* Read before the New York Obstetrical Society, April 4, 1882

Alexander, now suggested a trial of phenic acid hypodermically. The patient's condition was very low; the temperature had been ranging high from the beginning, and for the preceding fortnight it had been above 104° F. many times. Shortly after beginning the use of phenic acid it fell to 98°, where it remained except on one occasion, when undue manipulation caused it to rise to 102°, but it fell to normal again on resuming the acid. The use of the acid was discontinued when sulphates disappeared from the urine, except on the occasion referred to. It was then given after their disappearance, without any bad result. No sores occurred at the points of injection. For the following notes of the case, together with the temperature chart, I am indebted to Dr. Alexander.

Lizzie B., colored, aged eighteen, United States, single, was admitted to the lying-in ward of Bellevue Hospital, February 25th, at 11 P. M., in labor. The labor was rendered tedious on account of contracted pelvis, and complicated by prolapse of the funis. The child died *in utero*, and was extracted by cephalotripsy, at 10 P. M., February 26th. At 6 P. M. on this date the patient had a severe chill, accompanied by vomiting, and soon afterward the temperature went up to 102.25° F. There was considerable hæmorrhage following the expulsion of the placenta, and the uterus was slow in contracting. On March 1st the general condition was bad, the temperature on the preceding evening having reached 104.25°. The discharge from the uterus became offensive in the extreme, and was of a dark color, and there was diarrhœa. She was put on the following line of treatment: Quinine, gr. xv twice a day; whisky, $\frac{3}{4}$ ij every three hours; vaginal douche every three hours; bismuth and morphia, p. r. n. The uterus was carefully wiped out with borated cotton, and an intra-uterine douche was given.

For the next two or three days she seemed to improve slightly, although the temperature still remained high; but on March 4th she complained of pain in the left iliac fossa. On examination, the whole uterus was found very sensitive, and especially on the left side. Ordered the abdomen to be poulticed, and tinct. opii deodorat., gtt. x, to be given p. r. n. On March 7th the temperature had risen to 104°; pain had returned in the left iliac fossa, and examination showed a hardened mass to the left of the uterus, which was very sensitive. The intra-uterine douches had been stopped. Ordered poultices, and opium, in addition to the quinine, gr. xxx daily, and whisky. On March 9th the patient had a chilly sensation, lasting about an hour, and afterward the temperature rose from 101° to 103.25°. On March 10th she felt very weak. She suffered a good deal of pain, and spit up a number of small, dark blood clots after a fit of coughing. Physical examination failed to find any lesion in the lungs. A thorough examination of the case was made by Dr. Polk this morning, and the opinion was that the amount of pelvic cellulitis was small, and that the trouble was septic. The intra-uterine douches were recommenced, and ordered to be given daily. This was done, a Weiss catheter being used, and a two-per-cent. solution of carbolic acid thrown in at a temperature of 110° F. Other orders as before. On March 13th the patient complained of pain on passing her urine, which, on examination, was found to be clear, pale, of a specific gravity of 1.010, and alkaline, and to contain a small quantity of albumen, but no casts. Her bladder was washed out with



Chill.

Chill.

Use of phenic acid begun.

Treatment stopped by mistake.

Treatment begun again.

} Rise after manipulation.
 } Treatment begun again.

Treatment stopped.

borax, 3 j, water, Oj, but was found perfectly clean. The return water from the intra-uterine douche was only slightly discolored, being a little milky. The discharge was not very offensive. She still continued from time to time to expectorate small, dark blood clots, as above mentioned.

March 16th.—During the next three days she seemed to have lost ground. She was very weak, and on the morning of March 16th had a chill, which was not very severe, but which lasted almost an hour. She complained of her left knee, which on examination was swollen, hot, and very tender. She had a large pustule on the outer side of the right ankle. The temperature shortly after the chill went up to 104°. Her general condition was now very poor; tongue coated, bowels constipated, skin dry, and she could not turn in bed without assistance.

As the case seemed to have been going badly up to this time, it was decided to change the treatment. The patient was, therefore, put upon the use of a two-and-a-half-per-cent. solution of phenic acid, by hypodermic injection, every four hours. The solution was warmed to about 100° F., and the injections were made just under the skin, not deep. As a precautionary measure, the urine was ordered to be examined twice a day, to determine the amount of sulphates present, as it had been maintained that this was the first sign of carbolic-acid poisoning, and that, if the sulphates entirely disappeared, the remedies should be stopped until they were again present. The test used in this case was as follows: To the urine was added a drop or two of strong nitric acid, to dissolve the phosphates if present, and then a saturated solution of barium chloride, the reaction causing a white precipitate of the sulphate of barium. This examination was made at once, to determine the amount of sulphates present before treatment.

The treatment was begun, with the temperature at 103·75°, at 2 P. M. on March 17th. At 6 P. M. it was 109·75°, and at 10 P. M. 99·75°.

March 18th.—At 1 A. M. the temperature was 98·5°, at 4 A. M. 98°, and at 7 A. M. 98°. At this time, by some mistake, the treatment was discontinued until 3 P. M., when the temperature had reached 101°. The treatment was at once begun again, and by 5 A. M., March 20th, the temperature was 98·5°. On March 19th the injections were given every three hours, as the temperature did not yield; but as soon as it came down they were continued every four hours. The patient complained somewhat of the hypodermics, but her general condition was vastly improved, her tongue had cleaned up, her appetite was good, she slept well, and felt stronger. The accompanying chart shows the highest and lowest temperatures up to date for morning and evening.

On March 22d, the sulphates having nearly all disappeared from the urine, and the temperature being constantly below 99°, the phenic acid was discontinued. The patient was much stronger, and altogether better, and wished to sit up. This continued until March 24th, when, an hour or two after undue manipulation of the abdomen, she complained of severe pain; and it was not until gr. $\frac{4}{8}$ of morphine had been given that she was quieted. At this time, 10 P. M., March 24th, the temperature had reached 102·5°. The use of phenic acid was immediately resumed every four hours, and at 2 A. M., March 25th, the temperature had fallen to 100·5°, at 6 A. M. it was 99°, at 10 A. M. 99·5°, and at 6 P. M. 98·5°.

The use of the acid was continued until March 28th, when, the temperature having remained down for four days, it was stopped. The patient went on to a rapid recovery, soon sitting up for several hours every day, with a hearty appetite and looking bright and well. The trouble in her knee entirely disappeared.

The beneficial action of phenic acid seems to have been very decided in this case, and I think that it speaks in favor of further and more thorough trial of the remedy.

CASE OF CYSTO-SARCOMA OF THE UTERUS WITHOUT INVASION OF THE MUCOUS MEMBRANE.*

By HENRY J. GARRIGUES, M.D.

Mrs. C. L. consulted me as a dispensary patient September 27, 1881. She had been married fourteen years, and only given birth to one child, thirteen years ago. She had begun to menstruate when she was seventeen years old, and had always been regular. The flow was preceded by pain, lasted six days, and had formerly been abundant, but of late it had become scanty. During the last four months she had suffered from frequent and painful micturition. In June she had noticed a pain, and shortly afterward a swelling, in the right inguinal region, and often felt chilly and feverish. She had vomited much, and lost flesh and strength. Defecation was normal. There had never been hæmorrhage or any other considerable discharge from the genitals.

I found in the right inguinal region a tumor reaching one inch above the level of the umbilicus. It was lying to the side of and in front of the uterus, covering more than one half of that organ. It was nodular, elastic, not fluctuating, tender on pressure, freely movable. The movements were scarcely imparted to the uterus. No sounds were heard with the stethoscope. The fundus uteri was felt four fingerbreadths above the symphysis pubis. The sound entered four and a half inches. There was no ascites.

My diagnosis was, sarcoma of the right ovary. I supposed the seat to be ovarian and not uterine, on account of the total absence of bleeding (even menstruation having become scanty), and of any watery, offensive discharge. I took it to be sarcomatous, not fibrous, on account of its elasticity and rapid growth, the great pain, and the broken-down constitution. I advised her to apply for admission to the German Hospital, in order to have her tumor removed, but she sought other advice, and did not enter the hospital before two and a half months later, when compelled to do so on account of pneumonia. She was tapped for ascites four times. After the last tapping, on April 7th, a thorough examination was made by Dr. J. Schnetter. The uterus was found somewhat enlarged and retroverted. On its anterior surface, in intimate connection with it, was felt a tumor of the size of a walnut. On the left side was found a freely movable, solid tumor, of which it was uncertain if it was ovarian or uterine. On the right side was felt a mass of the size of a child's head, more intimately connected with the uterus than that on the left side. It was soft, elastic, probably cystic. It was still more doubtful if this tumor was ovarian than that on the left side. It was surmised that it might be a sarcoma.

During her stay of more than four and a half months in the hospital she did not menstruate.

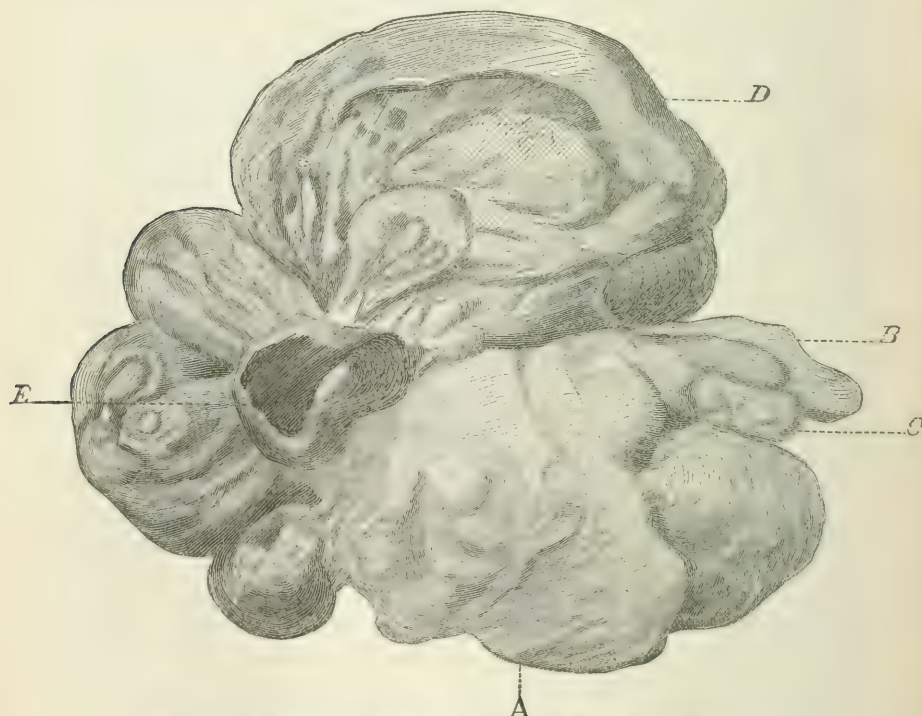
On April 20th she was operated on by Dr. Schnetter. I shall not enter into any details of the operation, but only describe the pathological features of the

* Read before the New York Obstetrical Society, May 2, 1882.

case. Almost a pailful of ascitic fluid was removed. This was reddish-yellow, of a specific gravity of 1.016, slightly alkaline; there was no spontaneous coagulation, but some coagulation by boiling, and more on adding a drop of acetic acid; the coagulum re-dissolved in excess of boiling acetic acid. The microscope revealed no other elements than red blood corpuscles. Large cystic, pediculated tumors were seen to spring from the uterus.

The bladder, which had been drawn up in front of the lower part of the body of the uterus, had to be dissected off from the latter. Then the uterus, with the tumors, was cut off. The pedicle proved to be a soft, flabby mass, in many places brain-like.

The patient died twenty-six hours after the operation. The autopsy, performed by Dr. Bender, showed that the *écraseur* had been applied one centimetre above the isthmus of the uterus. The vagina was healthy; the vaginal portion showed an old bilateral laceration, but was otherwise healthy. The cervix was much thickened, the wall measuring from one to two centimetres in thickness. The isthmus was fully two centimetres long. The mucous membrane, both of the cervix and of the body, was healthy-looking. In the left parametrium was found a solid tumor, of the size of a large hen's egg, going close up to the cervix and the isthmus. This tumor could easily be separated from the surrounding connective tissue.



CYSTO-SARCOMA OF THE UTERUS SEEN FROM BEHIND (one half natural size).

A, uterus; B, right tube; C, right ovary; D, largest cyst, cut open; E, soft, solid tumor.

The peritonæum was found studded with whitish round or oblong prominences of the size of a pea.

The part which was removed (see figure) consisted of a central, solid mass (A), from which started eight different tumors, varying in size from that of a small hazel-nut to that of a child's head. The central mass had the size of a large orange, and contained the fundus uteri and part of the cavity. This had been much reduced in width, and had become club-shaped. It measured only 2 centimetres in length by 1·5 in width, while the wall reached 2·5 in thickness. The mucous membrane looked healthy. The right tube (B) and ovary (C) were found in a normal condition, except that a string-shaped adhesion extended from the ovary to the uterus. The corresponding part of the uterine cavity had its normal infundibuliform shape, and a probe readily passed from the uterus through the whole length of the tube. On the other hand, there was no trace to be found of the left tube or ovary. While the tissue contiguous to the cavity looked comparatively healthy, all the other part of the tumor was soft, in many places brain-like, and full of small cavities. The largest of these was of the size of a large hazel-nut, and from it a probe was easily passed through narrow canals into two of the cysts. While the uterine cavity had its normal epithelium, these cavities had none, and scrapings showed only many oval and spindle-shaped cells.

Of the tumors springing from the central mass, the smaller were solid (E); the larger formed cysts. All had short, broad pedicles. The largest cyst (D) was cut open, and showed a smooth interior surface. A thin membrane could even be dissected from it, but it had no epithelium, and everywhere in the wall were seen smaller cysts or openings leading into recesses. The wall varied much in thickness, being in some places as thin as paper, and in others three centimetres thick.

Microscopical examination of hardened specimens taken from the largest cyst and different places of the soft central mass showed a tissue composed of closely packed small bodies, many of which were not larger than red blood corpuscles. Some of them were small, round cells, with a comparatively large nucleus; others naked nuclei. Here and there were interspersed spindle-shaped cells. The intercellular substance was homogeneous or slightly striped. The diagnosis is therefore *small-round-cell and spindle-cell sarcoma*. In some places the beginning of the cystic degeneration could be seen as small alveoli filled with coagulated serum, and separated by thin walls formed of round or spindle-shaped cells. There was not found any trace of cancerous or fibrous neoplasm.

The uterine body nearest the cavity showed here and there muscular bundles separated by a myxomatous tissue containing much basis substance, with few stellate cells; the single muscle cells were mostly found separated by a swelling of the perimysium, and seemed to become changed into the stellate cells interspersed in the myxomatous basis substance. A great abundance of elastic fibers and many arteries were noticed. Sections from the cervix showed this part to be made up of normal tissue.

The tumor in the parametrium showed the tissue of a small-round-cell sarcoma, in some places alternating with stripes of young connective tissue, in others with fully developed connective tissue and fat. This arrangement seemed to be due to a sarcomatous invasion, perhaps following the lymphatics.

The small growths on the peritonæum showed likewise young connective tissue with beginning formation of small-round-cell sarcomatous tissue.

The *fluid* contained in the cysts had the same yellowish-red color as the ascitic fluid, but differed entirely from it by coagulating spontaneously and com-

pletely immediately after evacuation. After some time a citrine fluid exuded from the coagulum, which had a specific gravity of 1.012, precipitated a little on being boiled, and, after addition of a drop of acetic acid, as much as half of its volume, the coagulum being re-dissolved in an excess of boiling acetic acid. It contained red and colorless blood corpuscles. The coagulum from which this fluid had exuded consisted of fibrin, red and colorless blood corpuscles, but did not contain any epithelial cells nor spindle-shaped cells.

This case presents several points of interest. In the clinical history we notice the total absence of metrorrhagia. Loss of blood and a copious watery, often offensive, discharge are among the chief symptoms of sarcoma uteri. This is due to the common development of the disease in the mucous membrane lining the cavity of the body of the uterus; and that it was absent here finds its explanation in the fact that the disease in our case started from the connective tissue separating the muscular bundles in the left part of the uterus, and never reached the mucous membrane.

The formation of tumors on the outer surface of the uterus is rare in sarcoma. West has described a case of the kind under the name of *recurrent fibroid* ("Diseases of Women"), but here an external pedicellate tumor was combined with a large intra-uterine polypus. In a case of Gusserow's ("Archiv. für Gynäkologie," i, p. 243) the diseased tissue had grown right through the whole wall of the uterus, forming a large external tumor; but at the same time a polypus hung down from the inside of the cavity of the body. In our case the whole development was eccentric, and, while in West's and Gusserow's cases there was only one external tumor, in this case there was a whole cluster of them.

The transformation to a large cyst is likewise rare, but was also found in Gusserow's case. Occurring in a large solitary pediculated tumor, when the patient was first seen it gave rise to the erroneous diagnosis of an ovarian cyst.

The secondary affection of the peritonæum seems also to be uncommon. At least Hegar, in a rather exhaustive article on the subject ("Archiv. f. Gynäk.," ii, p. 33), speaking of other localities where secondary deposits have been found—such as the lungs, the pericardium, the vertebrae, the inguinal and retro-peritoneal glands—does not mention the invasion of the peritonæum found in our case.

No trace being found of the left tube and ovary, the question may be raised if the disease did not begin in the ovary and invade the uterus by contiguity. I have myself described a case in which both ovaries had formed one large cysto-sarcoma, in which was found an entirely healthy uterus ("Am. Jour. of Obstet.," xiv, p. 889). In the present case I do not believe that the ovary was the starting-

point. Else there would have been, in the beginning of the disease, a tumor on the left side, which was not the case when I examined her. What I felt then was evidently the largest of the tumors found at the operation, and, although it was connected with the fundus near the left border of the uterus, it lay in the right side of the abdomen, and the patient said that both pain and swelling had begun on this side. A pedicellate tumor of the uterus could be pushed over to the other side in this way; of an ovarian tumor I can not imagine that such a displacement should be possible.

Editorials.

A SCHOOL FOR PRACTITIONERS.

It has been known for some time past that a number of gentlemen connected with the faculty of one of the leading medical schools of New York had resigned their positions, and had set about forming an independent school of their own. Their first idea was, we understand, to teach practitioners only; and we congratulate them on their return to this purpose after having considered, and decided against, a scheme for setting up a school, with power to confer the degree of doctor of medicine, as a department of a university. Of institutions of that sort we have more than enough already, but it seems to us that the school proposed, exclusively for practitioners, will serve a good purpose. The idea is not altogether a new one, to be sure; our Western brethren, with that enterprise and discernment for which we are so often compelled to give them credit, have had such institutions at work for some considerable time, and, unless we are mistaken, they may be said to be in a flourishing state. But, as a matter of course, it has been only a question of time when New York should deploy her vast resources into this line, the desirability of such a course being once established.

It does seem desirable from every point of view. That practitioners, in large numbers, feel the advantage of special post-graduate instruction is abundantly attested by the extent to which they have availed themselves of the inadequate provision heretofore

made for them. So to speak, they have been forced to dine in the nursery or go hungry; they have had to walk the hospitals with a surging crowd of undergraduates, the decorum that comes to most of us only with years constraining them to hover on the verge of the assemblage rather than, as in by-gone days, elbow their way *in medias res*; they have sat with marvelous patience on the lecture-room benches, enduring the sportive but not always refined demeanor of the youthful matriculates about them; they have devoted precious time to the task of passing the lecturers' dilute matter through a sort of mental filter, to get a modicum of substantial material. Of necessity, teachers in medical colleges shape their methods to suit the requirements of the business they have in hand—to teach beginners the elements of medicine. We do not conceal from ourselves that this very adaptation of means to the end, this very extraction and pre-digestion of the strong meat, is in itself a very creditable achievement and a prime requisite. To give a Cartwright lecture before a class of undergraduates would be an absurdity. None realize this more fully than our college professors, and, notwithstanding the gratification they undoubtedly feel at the attendance of mature men at their lectures and demonstrations, there must be few if any among them who are not profoundly sensible of an undercurrent of deprecation of criticism—a vague but pervading dread lest the elementary work they are seen to be engaged in, all difficult and necessary as it is, may be thought to be the highest of which they are capable. A man's human nature keeps up a running protest against this false light in which he is made to stand, and at times breaks out in open revolt; the result is that, for the nonce, he throws his true work aside and hurls some real food for thought at the few gray-beards he sees before him. Such an episode may amount to nothing more than a spurt, in which case the students are simply nonplussed; if he warms to his subject, and shoots over their heads for any considerable length of time, they vote him a bore and go to sleep, and after that he may not “draw” well. Thus may the attempt to ride two horses bring a man to grief.

The new school may do away with these elements of vexation and disappointment; whether it will do so or not depends, in our judgment, upon the course its faculty may decide to follow. If, in breaking loose from the rudimentary, they cease to keep the didactic in view, and confine their efforts to the demonstrative and illustrative, it may succeed at first, for practitioners are prone to look upon the concrete as that of which alone they stand in need; but it will fail in the end, for the art of applying scientific knowl-

edge can no more be held above the acquisition and digestion of its principles than water can rise above its source. Medicine is not a matter to be looked at, to be felt of, to be listened to; it must be mastered by the mind, not by the senses. Physical diagnosis, the details of medication, and manipulative therapeutic measures, should be the mere implements of our work; the skill and judgment that should guide their use are not to be sucked in from demonstrations, but must be developed by careful intellectual training. We can not but suppose that the gentlemen of the new faculty feel the force of these considerations, and we trust that the widespread rage for what is called the practical will not allure them to any course which does not keep the fundamental constantly in the foreground. We hope and believe that they will resist any such temptation, and we heartily wish the new school a full measure of patronage.

Special Articles.

THE FEMALE PERINÆUM.

By AMBROSE L. RANNEY, M. D.

(*Concluded from July number.*)

In order to clearly explain the origin of this muscle, it will be necessary to advert for a moment to the arrangement of the pelvic fasciæ, since it is closely connected with them. The iliac fascia, in descending from the brim of the pelvis, covers the upper part of the obturator internus muscle, and may be traced as a single fibrous layer as far as a white line which extends from near the symphysis pubis to the spine of the ischium. This line indicates the point where the iliac fascia splits into two lamellæ; one, the *obturator fascia*, which continues downward over the remaining portion of the obturator internus muscle, and the other, the *recto-vesical fascia*, which passes inward and downward toward the side of the rectum and vagina in the female, and in the male to the rectum, bladder, and prostate gland.

Now, the levator ani muscle is situated between these two layers of the pelvic fascia, so that the recto-vesical fascia lies in close contact with its upper surface, while an offshoot from the obturator fascia lies below it, and thus incloses the muscle between two planes of fascia. The muscle thus

forms a thin sheet upon the lower surface of the recto-vesical fascia, deriving a great portion of its attachment from the white tendinous line which marks its divergence from the obturator fascia. This white line is seen extending from the pubes to the spine of the ischium. In addition to this fascial attachment, the levator ani has a bony origin from the spine of the ischium behind, and from the body of the pubes and a small spot upon the ramus near the border of the obturator foramen in front. The dense fascia below the muscle, which is an offshoot from the obturator fascia, may be designated as the "levator ani fascia." Savage calls it the *inferior* or *perineal layer* of the obturator fascia.

From this extensive origin the fibers of the muscle pass in varying directions. The pubo-coccygeus muscle, comprising that part which has a

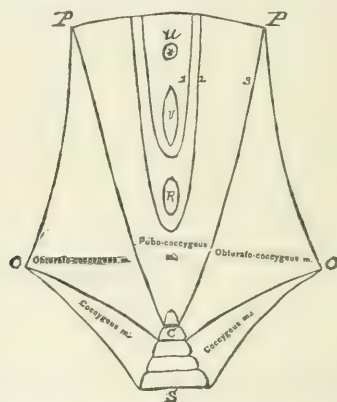


FIG. 5.—A DIAGRAM DESIGNED TO SHOW THE ARRANGEMENT OF THE FIBERS OF THE PUBO-COCYGEUS AND OBTURATO-COCYGEUS MUSCLES (THE LEVATOR ANI).

P, pubic attachment; C, coccygeal attachment; V, vagina; R, rectum; P, O, line of division of the iliac fascia; S, sacrum; 1, sling-like fibers encircling the vagina; 2, sling-like fibers encircling the rectum; 3, longitudinal fibers extending from pubes to coccyx.

bony attachment in front, passes in nearly an antero-posterior direction, to be partly inserted into the last two bones of the coccyx, while its median fibers encircle the vagina like a sling, thus supporting an analogy to the levator prostatae muscle of Santorini in the male. The fibers which extend continuously from the pubes to the coccyx resemble those of the sphincter ani externus in direction. They are difficult to demonstrate in subjects which are not fresh. Those of this bundle which lie nearest to the median line of the body are interposed between the external and internal sphincter muscles of the rectum, the longitudinal fibers of that viscus becoming intermingled with them to some extent. Some sling-like fibers of the pubo-coccygeus muscle can also be traced between the coccyx and the rectum; these assist the action of the deep sphincter. The sling-like fibers which encircle the vagina, coupled with the general sphincter-like arrangement of the longitudinal fibers upon that tube, seem to sustain the belief that the so-called "sphincter vaginae muscle" is not the bulbo-cavernosus,

but rather the pubo-coccygeal fibers of the levator ani. These fibers are enabled to act upon the urethra after the vagina is collapsed, and it is possible that they may assist in the retention of urine within the bladder.

The posterior part of the levator ani—the obturato-coccygeus muscle of Savage—comprises that portion which takes its origin from the ilio-pubic line of junction between the obturator and recto-vesical fasciæ. The fasciculi are all inserted into the sides of the lower end of the coccyx. Some authors describe bundles which interlace with similar bundles of the muscle of the opposite side in a median raphé between the coccyx and the margin of the anus, and also some fibers, anterior to these middle bundles, which are prolonged upon the lower part of the rectum and intermingle with the fibers of the external sphincter; but I am convinced by numerous dissections that this description is an error, and that the obturato-coccygeus muscle has no rectal relations. The plates of Savage, as well as his text, sustain this view.

The deductions which I believe to be correct as to the functions of the levator ani muscle are as follows: 1. It acts as a sphincter to the vagina by its longitudinal and sling-like fibers, and, possibly, compresses the urethra. 2. It strengthens the deep sphincter muscle of the rectum. 3. It supports and raises the rectum and pelvic floor by those fibers which are closely intermingled with the external sphincter muscle of the anus and the longitudinal fibers of the rectum. 4. It acts upon the tip of the coccyx, which it tends to draw forward, and thus to increase its curvature. The recto-vesical and levator ani fasciæ, by their elasticity and toughness, assist the fibers of this muscle to sustain pressure in excess of its apparent strength.

Ischio-coccygeus.—This muscle—described usually as the “coccygeus”—although the name which I have borrowed from Savage indicates its origin and insertion better than the other, is situated deeply at the back part of the outlet of the pelvis. It is so closely connected to the levator ani as to be almost a continuation of that muscle. It has a triangular form, whose apex is attached to the spine of the ischium and the lesser sacro-sciatic ligament, and whose base is united to the border of the coccyx and the lower part of the sacrum (see fig. 5). Its internal surface assists in the support of the rectum. Its external or inferior surface lies upon the sacro-sciatic ligaments and touches some fibers of the gluteus maximus muscle. Its action is to assist in the fixation and flexion of the coccyx.

Compressor Urethræ.—The muscular fibers found between the two layers of the deep perineal fascia (perineal septum of Savage) are those of the compressor urethræ muscle and some fibers derived from the vagina which here receive a bony insertion. The ordinary dissections of the perinæum, made upon subjects not perfectly fresh, do not afford a correct and clear conception of its arrangement. The defective and partial descriptions which have been issued at various times concerning it have helped to confuse the reader concerning its true structure. Guthrie made a special study

of this muscle in the male, and lectured upon it in 1830 before the Royal College of Surgeons; and Müller and Thompson have both corroborated

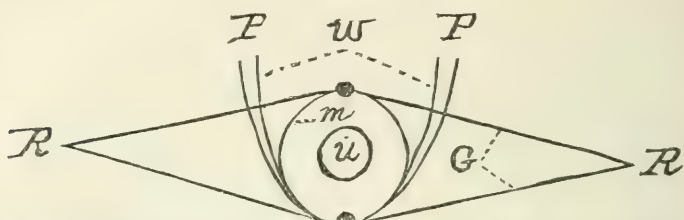


FIG. 6.—A DIAGRAM DESIGNED TO SHOW THE MUSCULAR FIBERS WHICH TEND TO COMPRESS THE URETHRA.

W, Wilson's muscle; G, Guthrie's muscle; P, pubes; R, ramus; U, urethra; M, Müller's fibers.

his views in later publications. The dissections of these observers seem, however, to have been anticipated by Santorini, who made a drawing of it as it exists, although his demonstration of the course of the individual fibers was less perfect than those of the men who followed him, and his description inadequate. In dissections made by myself I have had occasion to observe some points of similarity between the arrangement of this muscle in the two sexes.

In the male this muscle seems to arise from two tendinous lines—one above the urethra and one below it—both of which lie in the median line and extend from before backward. The upper tendon extends from the pubes, to which it is attached by fascia, forward through the anterior layer of the deep perineal fascia to be inserted near to the line of junction of the crura of the corpora cavernosa; and also backward from the same point to the apex of the prostate gland, in whose upper surface it terminates. The lower tendon extends from the posterior layer of the deep perineal fascia (where it is reflected from the apex of the prostate gland) forward to be inserted into the central point of the perinæum. From these two tendinous lines muscular fibers arise which converge and pass outward to be inserted into the ischium, near its point of junction with the descending ramus of the pubes on each side. A few circular fibers may also occasionally be demonstrated, as first proved by Müller, which inclose the urethra, and which are continuous with those passing to the ischium. Wilson claims to have demonstrated some sling-like fibers passing from the pubes around the urethra.

Now, in the female, the deep perineal fascia is pierced by the urethra and vagina; hence the urethra lies much nearer to the symphysis than in the male. Besides, the urethra is closely intermingled with the anterior vaginal wall in its lower portion, so that it would be difficult for looped fibers to be traced between these two tubes, or for a tendon to be demonstrated as existing below the urethra to which separate muscular fibers could be attached. We see, however, after the anterior layer of the deep perineal fascia is removed, that a plane of muscular fibers lies beneath it,

which are directed outward toward the rami of the pubes and ischium, and present a somewhat converging appearance, as in the male. Between different bundles of this muscular plane the deep perineal artery and vein pass. The upper fibers closely resemble those of the compressor urethræ (Guthrie's muscle) in the male, and are apparently able to exert a direct action upon the urethra.

The lower fibers of the muscular septum are directed nearly horizontally, and pass from the ramus of the ischium of each side to meet each other below the vagina. The middle fibers are continuous with the muscular coat of the vagina, and pass outward from the sides of that canal to be inserted into the rami of the pubes and ischium. The lowest bundles, which pass below the vagina, are to be considered as analogous to the so-called "deep transverse perineal muscle" of the male. I have never been able to satisfactorily demonstrate the special fibers described by Wilson and Müller, in repeated dissections, but they may possibly exist in some cases.

Actions of the Perineal Muscles.—The *bulbo-cavernosus*, which is analogous to the lateral half of the accelerator urinæ muscle of the male, unquestionably assists in compressing the bulb of the vagina, and it may also similarly affect the vulvo-vaginal gland of the corresponding side. It is possible that it assists in creating and maintaining an erection of the clitoris, by creating compression of the dorsal vein of the clitoris, and by forcing blood into the cavernous structure of that organ from the bulb of the vagina.

The *transversus perinæi* serves to steady the central point of the perinæum, when acting with its fellow, in order that the other muscles which are attached in that vicinity may have a firm point from which to act. It seems reasonable also to attribute to this muscle, as was first suggested by Cruveilhier, the function of antagonizing the action of the levator ani, which tends to draw the anus upward and forward.

Besides contracting the anal integument, the *external sphincter of the anus*, by virtue of its attachment to the perineal body and the tip of the coccyx, assists the levator ani in giving support to the opening during the expulsive efforts of defecation. Its fibers are intermingled with those of the bulbo-cavernosus muscle.

The *levator ani*, as its name would indicate, tends to raise and support the rectum and vagina during expulsive acts. In the female, the pubo-coccygeal portion also acts as the sphincter muscle of the vaginal canal, and, possibly, of the urethra also after the vagina is collapsed. It is the physiological antagonist of the diaphragm in its action upon the pelvic viscera, as it rises and falls in unison with it during forcible respiration. When the action of the abdominal muscles is excessive, it yields, and thus enables the pelvis to bear a greater force than a more resistant structure; and, on the remission of such an action, it restores the perinæum to its original form.

The *coccygeus* muscle helps to restore the coccyx to its normal position after it has been pressed backward during parturition or defecation.

The *erector clitoridis*, by its insertion into the sheath of the crus, may possibly assist in maintaining the erection of that organ by compressing the corpus cavernosum. Its size would seem to be in excess of that required to simply maintain a steadiness of that small organ, which is so necessary to the proper performance of the functions of the penis. Krause was the first to maintain that this muscle was enabled to compress the dorsal vein of the male organ; but his view has been generally discarded, as the accelerator urinæ muscle seemed especially constructed for that purpose.

BLOOD-VESSELS OF THE FEMALE PERINEUM.—The blood supply to the structures which have been discussed is derived from the branches of the internal pudic artery. It will be well, therefore, to trace the course of this vessel before describing its branches.

The *internal pudic artery* arises from the anterior trunk of the internal iliac; escapes from the pelvic cavity through the great sacro-sciatic foramen; re-enters it, after passing around the spine of the ischium, by means of the lesser sacro-sciatic foramen; and then gives off its branches. It is accompanied throughout its entire course by its vein and nerve.* As its



FIG. 7.—A DIAGRAM OF THE ARTERIES OF THE PERINEUM.

M, meatus urinarius; V, orifice of vagina; V, vulva; T, transverse perineal muscle; A, anus; e-f, line of ramus; c-d, ischio-coccygeal line; 1, internal pudic artery; 2, 3, superficial hæmorrhoidal vessels; 4, transverse perineal artery; 5, superficial perineal artery; 6, continuation of trunk of internal pudic artery; 7, artery of the bulb; 8, artery of the corpora cavernosa; 9, deep transverse perineal artery (very large).

relations are of importance in performing operations upon the perineum, more detail seems to be demanded as to the course of the main trunk and the general distribution of the vessels which take their origin from it. As it crosses the spine of the ischium, the *gluteus maximus* muscle and the

* Sometimes two large veins accompany it. Savage, Ford, and Ellis give this as the normal number.

great sacro-sciatic ligament cover it. From that bony point it traverses the cavity of the pelvis, lying to the outer side of the ischio-rectal fossa and upon the internal obturator muscle, till it reaches the ramus of the pubes, along which it then ascends. It is enveloped, in company with its nerve and veins, in a sheath formed of the obturator fascia and a falciform process of the great sacro-sciatic ligament for that portion of its extent where it lies in relation with the internal obturator muscle, which can be defined by measuring about one inch and a half from the anterior margin of the tuberosity of the ischium. As it ascends along the ramus of the pubes it pierces the posterior layer of the triangular ligament of the perinæum, then passes for a short distance in a canal between the two layers, and subsequently perforates the anterior layer of the same fascia near the symphysis before it gives off its terminal branches—the artery of the corpus cavernosum and the dorsal artery of the clitoris. The anterior margin of the pubes is a guide to this vessel for the greater portion of its course after it enters the lesser sacro-sciatic foramen. Incisions approaching the rami are therefore associated with great danger of hæmorrhage. This artery in the female is much smaller than in the male.

The branches given off by this large vessel within the perinæum include the following: 1. The inferior hæmorrhoidal. 2. The superficial perineal or vulvar artery. 3. The transverse perineal artery. 4. The artery of the bulb. 5. The artery of the corpus cavernosum. 6. The dorsal artery of the clitoris.* Many of these branches have been discussed to some extent in those pages which treat of the structures with which they bear relation. As the descriptions of the analogous vessels of the male will answer in most instances for those of the female, I will simply enumerate such points pertaining to each of these six branches as will bear directly upon what has preceded.

The *inferior or external hæmorrhoidal arteries* comprise two or three small vessels which are given off from the internal pudic as that vessel crosses anterior to the tuberosity of the ischium. They run across the ischio-rectal fossa, through the mass of fat which helps to fill that fossa so as to bring its level up to that of the perinæum proper, and are distributed to the sphincter and levator ani muscles, and the skin and parts about the anus. They are the chief sources of hæmorrhage from all superficial wounds about the anus or the ischio-rectal fossa. These vessels have veins which accompany them and empty into the pudic veins.

The *superficial perineal or vulvar artery* is given off in front of the preceding branches. It pierces the obturator fascia and the anterior layer of the triangular ligament (deep perineal fascia), and then crosses the transverse perineal muscle to reach the triangular space between the bulbo-cavernosus and the erector clitoridis muscles. It then passes forward through the deep layer of the superficial perineal fascia, in which respect it differs from the male vessel. It is distributed to the vulva, and sends

* In exceptional cases the internal pudic artery gives off a *vaginal* and *urine* branch.

branches also to the muscles which are situated between the deep layer of the perineal fascia and the anterior layer of the triangular ligament. It is a source of arterial hæmorrhage in wounds of the vulva. In the male, it supplies the scrotum, thus supporting the analogy between the vulva and a lateral half of the scrotum.

The superficial perineal artery is accompanied by two veins, and anastomoses with the pudendal twigs derived from the superficial pudic branches of the femoral artery.

The *transverse perineal artery* is a smaller branch than the one just described. It pierces the deep layer of the triangular ligament to reach the transverse perineal muscle, along whose cutaneous surface it is distributed, as well as to neighboring parts between the anus and the bulbs of the vagina. Like the preceding artery, it is situated beneath the deep layer of the superficial perineal fascia. It may be a source of hæmorrhage in laceration of the perineal body, or wounds of the perinæum which are forward of the anus, and not in the median line. It occasionally sends a small branch to the vulvo-vaginal gland, and usually one to the bulb of the vagina.

The *artery of the bulb* is a vessel of considerable size, but short. It arises from the internal pudic artery between the layers of the triangular ligament of the perinæum, whose anterior layer it subsequently pierces, and sends branches to the bulb of the vagina of the same side. It also sends twigs which supply the meatus urinarius. This vessel has a surgical importance in the male which is wanting in the female, as it is a source of dangerous hæmorrhage in lithotomy, if wounded. The erectile tissue of the vaginal bulb is partly supplied by this vessel. The close proximity of the bulbs of the vagina to the labia minora renders their removal a source of a troublesome wound, which cicatrizes slowly.

The *veins of the perinæum* have been discussed, to some extent, on a preceding page. It is important to remember, however, that the veins of the perinæum are afforded a free anastomosis with the intra-pelvic venous plexuses, since no valves exist in these vessels to prevent the flow of the venous current in any direction. These extensive anastomoses explain the occurrence of fatal hæmorrhage from wounds of the vulva and vagina, as well as the surgical conditions designated as hæmatocoele and varices. Savage enumerates a long list of these cases, where the symptoms are to be explained purely on anatomical grounds. I regret that the prescribed limits of this article will prevent an extended discussion of the bearings of pelvic venous anastomoses upon symptoms, and the surgical deductions to be drawn from them. I would, however, refer the reader to the *résumé* of clinical facts given by Savage.

GENERAL SUMMARY OF THE ANATOMY OF THE PERINÆUM.—It is an impossibility to represent, in any one drawing, an accurate conception of the parts which have been discussed in the preceding pages. A sagittal section of the pelvis fails to give a true conception of the iliac fascia and the two lamellæ into which it divides at the level of the obturator internus

muscle; while, on the other hand, this section is the only one which can be used in a diagrammatic way to represent the layers of the perinæum, so as to properly appreciate their relations to each other. Savage has attempted to utilize a section of the pelvic structures made in the bis-ischiatic diameter of the pelvis, for the purpose of showing the relations of parts in the ischio-rectal fossa, but it strikes me as calculated, if used alone, to confuse rather than enlighten the reader. After innumerable attempts to devise a sketch which will fulfill the desired object, I have concluded to fall back upon the simplest form of diagram, which will enable the reader to grasp some of the more important points, without attempting to aim at any similarity to the parts as actually presented by dissection.

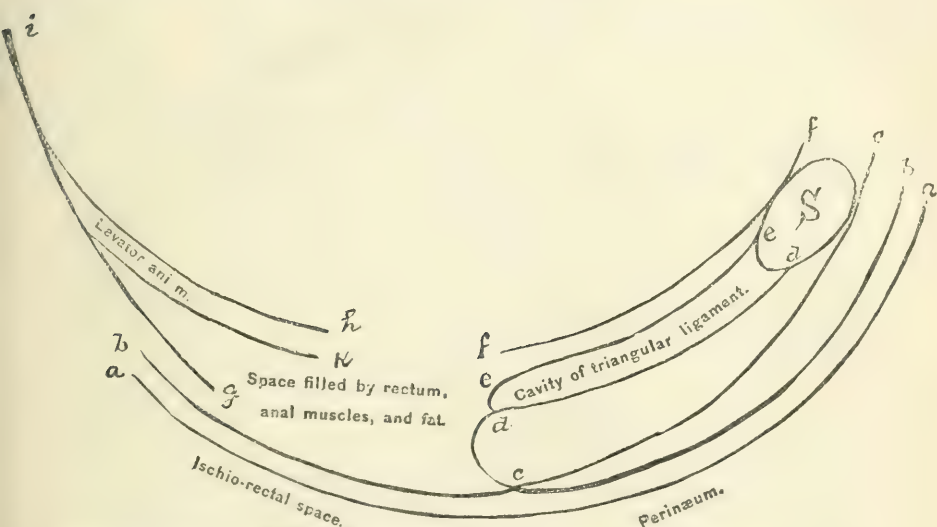


FIG. 8.—A DIAGRAM DESIGNED TO SHOW THE GENERAL CONSTRUCTION OF THE FEMALE PERINÆUM AND ISCHIO-RECTAL FOSSA.

a, line of skin; b, line of superficial layer of superficial perineal fascia; c, deep layer of same; d, anterior layer of deep perineal fascia (triangular ligament); e, posterior layer of same; f, iliac fascia, covering pubic region; i, same fascia from the sides of the pelvis splitting into two lamellae; g, obturator fascia; h, recto-vesical fascia; S, symphysis; k, fascia covering the levator ani on its lower surface.

It will be seen that the cut shows the perinæum and ischio-rectal space as adjoining one another and inclosed by a continuation of the same layer of integument. The superficial layer of the superficial perineal fascia (b) likewise extends over both regions, but becomes adherent to the deep layer of the same fascia (c) at the line which divides these localities. Thus we have two layers which are common to both of these topographical regions. In the ischio-rectal space we see that the *iliac fascia* sends two prolongations downward—the *obturator fascia* and the *recto-vesical fascia*, the former of which follows the pelvic wall, and incloses the obturator internus muscle, while the latter passes to the bladder and rectum, as its name indicates. The recto-vesical fascia bears an important relation with the levator ani muscle, and is therefore of great importance here.

In the ischio-rectal space there remains a large excess of room between the recto-vesical fascia and the pelvic floor, which is filled with the levator ani muscle, the levator ani fascia, and fatty tissue.

If we turn to the perinæum proper, we shall perceive that several layers are depicted in the diagram; and that between these are left spaces which afford room for muscles, blood-vessels, nerves, etc. The dividing lines depicted in the drawing are supposed to represent the various fasciæ. The various structures which are discovered between these fasciæ, as a dissection of the perinæum is being made from without inward, can best be arranged in the form of a table, as follows:

Between the integument and the superficial layer of the superficial perineal fascia.	<ul style="list-style-type: none"> { Superficial hæmorrhoidal vessels. { Superficial hæmorrhoidal nerves. { Superficial perineal artery and nerve. { Pudendal artery and nerve.
Between the deep layer of the superficial perineal fascia and the triangular ligament.	<ul style="list-style-type: none"> { Three pairs of muscles { Bulbo-cavernosus. { Erector clitoridis. { Transversus perinæi. { Transverse perineal artery, vein, and nerve. { Venous plexuses. { Bulbs of the vagina or vestibule. { Pudendal sacs. { Dorsal artery and vein of clitoris.
Between the two layers of the deep perineal fascia (the cavity of the triangular ligament).	<ul style="list-style-type: none"> { Compressor urethræ muscles. { Muscular fibers of the vagina attached to the rami. { Pudic vessels and nerves. { Urethra { perforating both layers. { Vagina { { Origin of four branches of pudic artery.
Between the triangular ligament and the iliac fascia.	<ul style="list-style-type: none"> { Pubo-coccygeus muscle.
Behind the triangular ligament.	<ul style="list-style-type: none"> { Fibers of the levator ani muscle. { Vulvo-vaginal glands (?).
Between the obturator and recto-vesical fasciæ.	<ul style="list-style-type: none"> { External hæmorrhoidal vessels and nerve. { Levator ani muscle. { Adipose tissue (in excess). { Fascia (covering the levator ani muscle), designated in the text as the "levator ani fascia."

The *ischio-rectal fossa* demands a special summary. As has been stated, it is impossible to properly represent its various component structures in a sagittal section of the pelvis. Perhaps the best view of this space can be obtained in a section of the pelvis made through the tuberosities of the ischia, although the relations of both the vagina and the rectum to this space are not seen even then. The diagrammatic cut which is here introduced will, however, possibly assist the reader to grasp some of the most difficult points which such a section would help to make clear. It should be premised that this cut is purely diagrammatic, since the plane of such a section would cut the vagina in its transverse rather than its long diameter, and thus confuse the reader, if the section were properly represented. It is sufficiently accurate, however, for all practical purposes, and shows the general relation of parts even better than if made true to nature. It will

be seen that the following fasciæ are met with in a dissection from above downward: (1) The recto-vesical; (2) the dense fascia which lies beneath the levator ani muscle; (3) the two layers of the triangular ligament,

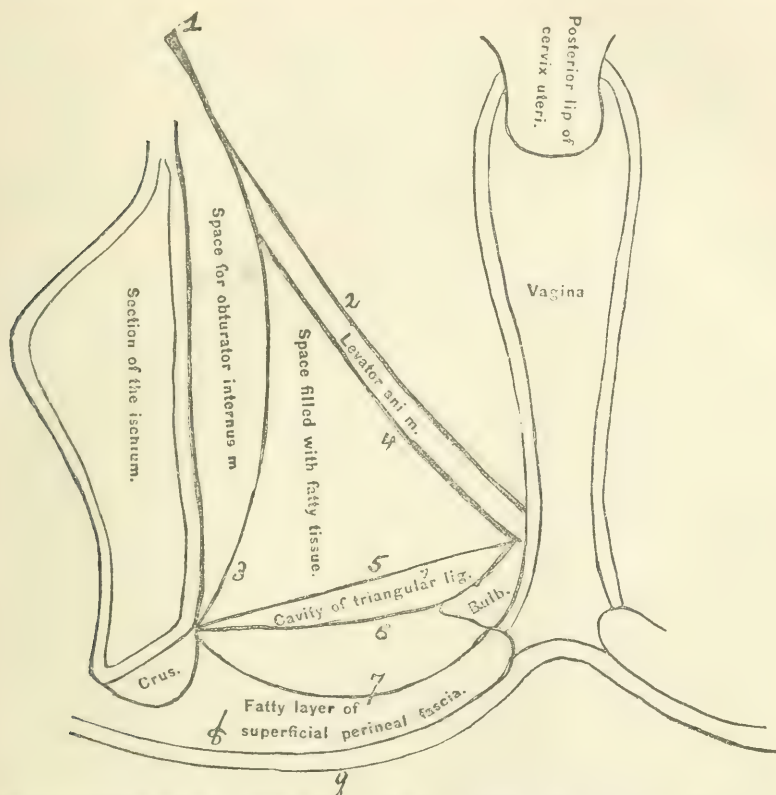


FIG. 9.—A DIAGRAM OF A PERPENDICULAR PELVIC SECTION THROUGH THE BIS-ISCHIATIC DIAMETER.

1, iliac fascia; 2, recto-vesical fascia; 3, obturator fascia; 4, perineal process of obturator fascia covering the lower surface of the levator ani muscle; 5, deep layer of triangular ligament; 6 superficial layer of same; 7, deep layer of superficial perineal fascia; 8, superficial layer of same; 9, skin.

situated below an extensive space filled with fat and a muscular layer beneath it; (4) the deep layer of the superficial perineal fascia and the muscles beneath it; (5) the superficial layer of the same fascia with its deposit of fatty tissue; (6) the skin. The diagram shows, in addition, that the bulb of the vagina has a separate sheath of its own, as the crus of the clitoris has also, both of which are cut across. This fact alone would indicate that both were composed of erectile tissue.

From the diagrams and text of this article some deductions may be drawn which are applicable in many ways.

Removal of tissue about the vulva would sever the small terminal branches of the superficial perineal artery, which might require ligation.

It might also loosen the attachments of the deep layer of the superficial perineal fascia, and thus disturb its functions; while inflammation might, moreover, extend upward from the pudendal sacs to the region of the inguinal canal.

The close proximity of the vaginal bulbs to the vulva, and the enormous collateral venous circulation which exists between the perineal veins and the intra-pelvic venous plexuses, might create alarming hæmorrhage during an operation, or produce a granulating wound which it would be difficult to close with a firm cicatrix. This applies especially to the nymphæ.

The perineal body can be divided in the median line with scarcely any hæmorrhage. Its vascularity increases as you pass outward toward the rami of the pubes and ischium.

Constriction of the vulvo-vaginal ring is produced chiefly by the looped fibers of the pubo-coccygeus muscle, and not by the bulbo-cavernosi muscles, as commonly taught. The term "sphincter vaginæ" is improperly applied, therefore, to the latter muscles, because they are clearly analogous to the accelerator urinæ of the male, and also because such a function is not sustained by anatomical research. These latter muscles probably compress the bulbs and help to force an excess of blood into the clitoris.

The fatty tissue found in the superficial layer of the superficial perineal fascia may undergo such an enormous increase as to constitute irregular tumors of the pudendum.

No vessel of the perinæum, if divided, requires a ligature at both ends except the internal pudic artery.

Small wounds of the vulva, vaginal orifice, or vaginal walls, especially during the pregnant state, may produce death from venous hæmorrhage.

The dangers of incisions within the perinæum increase as they approach the outer limits of that region, since the pudic vessels run close to the rami of the pubes and ischia, and their branches have increasing caliber as you pass from the median line of the body outward.

The superficial perineal artery differs in its course, size, and relations from the corresponding vessel of the male. The transverse perineal artery does not usually supply the vulvo-vaginal glands, as is commonly stated.

The vulvo-vaginal glands seem to lie posterior to the deep perineal fascia, while the glands of Cowper, which are their analogue in the male, are situated between its two layers.

The levator ani muscle can not be perceived in a dissection made from the integumentary surface inward until the superficial layer of the superficial perineal fascia is cut away, and the excess of fat which fills the ischio-rectal fossa and the perineal prolongation of the obturator fascia are likewise removed. It is seldom injured, therefore, in surgical procedures in the region of the female perinæum, although it may be involved in incisions posterior to the bis-ischiatic line.

Reviews and Literary Notes.

Landmarks, Medical and Surgical. By LUTHER HOLDEN, Ex-President, etc., of the Royal College of Surgeons of England, etc., assisted by JAMES SHUTER, M. A., Camb., F. R. C. S., etc. From the third English edition, with additions by WILLIAM W. KEEN, M. D., Professor of Artistic Anatomy in the Pennsylvania Academy of Fine Arts, etc. Philadelphia: Henry C. Lea's Son & Co., 1881. Pp. 148.

THE author's text is, we trust, familiar to most of our readers, and we have no doubt that this improved edition will be read even more widely. Dr. Keen has made many additions, and nearly all of them are appropriate and valuable. We will cite the following as an example—speaking of measurements of the lower limbs from the iliac spines: “In all such measurements it is of the utmost importance that a line joining the two spines should be at right angles to the axis of the body, or the measurements can not fail to be inaccurate. The spines also are so open to error, as points of measurement (for we scarcely ever can get precisely corresponding points on the two sides), that I have long since adopted the following method: See that the body is straight, and the pelvis (i. e., the line between the two spines) at right angles to it. Let an assistant hold the head immovably in the middle line. Let the patient seize the tape-line with his teeth. Measure one side, say to the inner malleolus. Then measure the other side, never by keeping the measure of the first side and simply passing across to the other leg, but by an independent measurement. The last precaution eliminates our preconceptions. The chief source of error here—which exists in all methods of measurement—is the position of the pelvis. The advantage is in one and the same starting-point, and that in the median line.”

To some of Dr. Keen's notes we must demur. For instance, on p. 68, he implies, although the direct statement is not made, that a considerable prominence of the umbilicus can be due only to free fluid in the peritonæum, whereas it is well known to occur from the pressure of the gravid uterus. Again, on p. 122, he says: “It is evidently the opinion of shoemakers that the axis of the sole of the foot ought to be a median straight line, and the two borders symmetrically curved toward it. If a foot they have not unduly distorted be observed carefully, it will be seen (B. Lee) that the axis is curved; that, on the inner border of the foot, the heel and the front part of the foot are in nearly a straight line, while the outer border is a curved line. If nature be followed, natural-shaped feet will be the result, and the miseries of corns and bunions be unknown.” Dr. Keen is right as regards the anatomy, but there is no such royal road to immunity against

corns; and the slur upon shoemakers, although perhaps *ben trovato*, is certainly not *vero*—at least, as regards the craft in New York.

This is all the fault we have to find, beyond chiding Dr. Keen for using the abominable word “auscult,” and for a few inaccuracies of expression, together with such slips as “Gower” for *Gowers* (p. 60), and “ilium” for *ileum* (p. 85). In general, we repeat, his additions are exceedingly valuable, and we again commend the book to our readers.

The Diagnosis and Treatment of the Diseases of the Eye. By HENRY W. WILLIAMS, A. M., M. D., Professor of Ophthalmology in Harvard University, etc. Boston: Houghton, Mifflin & Co., 1881. Pp. xii-464. [Price, \$4.]

IN view of the fact that works on diseases of the eye by American authors are rare, and, in addition, that this book comes from Boston, it is somewhat unpleasant for the reviewer to say that it does not reach a high standard either in a scientific or in a literary sense.

The object of the author, as stated in the preface, is to make the book a “practical guide, serviceable to the general practitioner and student,” and he has endeavored to combine clearness and accuracy with simplicity and conciseness. Too elaborate scientific descriptions and statements of theories have, for the most part, been avoided, as tending to encumber the work rather than accomplish the author’s object.

At times he seems a little inconsistent, and, as an example of this, his remarks on syphilitic affections may be instanced. On p. 125, speaking of interstitial keratitis, which he seems to think always due to inherited syphilis, he says local treatment is of secondary importance, and recommends some general treatment with hydrargyrum cum creta, or potassium iodide, in moderate doses; but in the treatment of syphilitic iritis (p. 150) he says: “The internal use of mercury iodide and inunction with mercurial ointment are serviceable methods of administration if the practitioner deems such alternatives necessary; but, if otherwise, he may safely venture to dispense with them, notwithstanding the old traditions in their favor.”

Speaking of strabismus, errors of refraction are given as its chief cause, and, in addition to the remedial means usually employed, correction of the error and tenotomy, the use of myotics is suggested, as worthy of trial, as a means of increasing the accommodation, and also of lessening the effects of defective refraction by cutting off the lateral pencils of rays. This, at best, could be of but temporary benefit, as the use of myotics could not always be kept up, and it would seem better to correct the cause of the trouble at once by giving glasses. On the whole, the work is sketchy and superficial, and seems to have been written hurriedly.

Supplement to Ziemssen's Cyclopædia of the Practice of Medicine. Edited by GEORGE L. PEABODY, M. D., Instructor in Pathology and Practice of Medicine, College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1881. Pp. viii-844.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. VON ZIEMSEN, Professor of Clinical Medicine in Munich, Bavaria. Vol. XX. General Index. New York: William Wood & Co., 1881. Pp. 499.

THESE two portly volumes, uniform in their general appearance with the nineteen that form the set in the American edition of von Ziemssen's work, may properly be considered together; and little need be said of either of them. We are under the impression that there is still one volume of the cyclopædia to be brought out. If such is the case, it would perhaps have been better to delay the preparation of the Index until it could be made to apply to the whole work. However, in its present form it will doubtless prove of great use to those who own the other volumes. It strikes us as having been very well done, barring some verbal peculiarities, which few will be inclined to look at critically.

As to the Supplement, the best we can say of it is, that it seems to be a painstaking attempt at the impossible. It is well known that the individual volumes of the German edition have been sold separately. Consequently some of them, having been most in demand, have been brought out in successive issues, each differing more or less from its predecessors. To note these differences, to give the additional bibliographical lists, and to add a satisfactory summary of what has been published on the subject by others—all within the narrow limits to which the editor was evidently compelled to restrict his collaborators—was clearly out of the question. Some of the contributors, indeed, seem to have had barely space enough to give the matter added by the original authors, and that, too, in a condensed form, leaving all contemporary writings unnoticed. The result is, that the book does not cover the ground it was meant to cover. This is not equally true of all its sections, however, and the reader will find some of them very satisfactory. As regards the quality of the work, it seems excellent in the main; its faults are those inseparable from enforced brevity.

The Harrogate Waters: Data, Chemical and Therapeutical, with Notes on the Climate of Harrogate. By GEORGE OLIVER, M. D., London, Member of the Royal College of Physicians of London, etc. London: H. K. Lewis, 1881. Pp. xvi-224. [From Presley Blakiston, Philadelphia. Price, \$1.50.]

DR. OLIVER must certainly be given the credit of having written of Harrogate in a vein far above that of the ordinary catchpenny productions of spa physicians, and of having made up a very readable volume. Much of it is devoted, of course, to the chemistry of the waters, but the reader will scarcely find even this tedious.

We should be glad to cite a number of passages from the book, but lack of space compels a restriction to the following, on the selection of cases suitable for Harrogate: "As a rule, it is unwise to advise the Harrogate waters to patients in whom morbid processes are either active or, though waning from, are still within the limits of a recent disturbance, or are unstable or touchy, with an evident wavering toward activity; in such cases—as in gout and skin diseases—they may now and then, it is true, be exhibited with success; but it is better to avoid the risk of an unhappy hit, and to wait until the pathological action, while subdued, obstinately persists. Chronic ailments—unassociated with wasting organic diseases—derive most benefit from Harrogate and its waters; such as struma, gout, rheumatism, skin diseases, anæmia and relaxation of tissue, portal congestion, etc. Among these diseases the treatment, when periodically resorted to, is frequently observed to be of great and permanent value in such cases as have settled into that obdurate state which can not be impressed by ordinary remedies—cases in which the pathological condition of the tissues reminds one of the compacted soil around the roots of plants, which bars out the life-giving influences of nature—the air, the light, the snow, the rain, the dew, and the mineral nourishment in solution—but, when broken up, permits them again to diffuse health and vigor throughout the vegetable tissues."

A Treatise on the Diseases of Infancy and Childhood. By J. LEWIS SMITH, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, etc. Fifth edition. Philadelphia: Henry C. Lea's Son & Co., 1881. Pp. xvi-17 to 836, inclusive.

It is a pleasure to note the appearance of a new edition of this exceedingly trustworthy text-book, one of the few of American origin that have attained to general recognition. With the single exception of Gerhardt's variorum "Handbuch," we know of no work on pædiatrics that seems to us its superior, and for every-day use we doubt if it is not better suited to the general practitioner's wants than even the great German treatise.

Although not perceptibly bulkier than former issues, this fifth edition will be found to include a good deal of added matter, the avoidance of enlargement having been secured by using smaller type. The typography is very pleasant to the eye, however, and, indeed, in every respect, the publishers' work has been well done.

A Hand-Book of Vertebrate Dissection. By H. NEWELL MARTIN, D. Sc., M. D., M. A., Professor in the Johns Hopkins University, and WILLIAM A. MOALE, M. D. Part I. How to Dissect a Chelonian. New York: Macmillan & Co., 1881. Pp. vi-94. [Price, 75c.]

THE precise scope of this little book is indicated by its sub-title: "How to Dissect a Chelonian." The particular chelonian dealt with is the *Pseu-*

demys rugosa, one of the terrapins. The simplicity and directness of statement noticeable, together with the admirably systematic arrangement of the steps in the dissection, make the subject quite easy of comprehension, even for those who have paid little or no attention to comparative anatomy. We welcome the appearance of books of this class, and trust that the succeeding parts of this "Hand-book" will come out in due time, for such works tend to engender and foster a fondness for science for its own sake, in place of a plodding devotion to the mere art of prescribing—and this, too, rather from their inculcating method and precision than from their imparting an actual knowledge of the particular natural science touched upon.

Atlas of Skin Diseases. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part IX. Philadelphia: J. B. Lippincott & Co., 1881. [Price, \$2.50.]

THIS concluding part of Dr. Duhring's great work includes a drawing from a case of eczema rubrum, occurring in patches of various sizes, shown chiefly on the shoulder, arm, and forearm; another showing an affection of the same name on the leg; one of pemphigus of the forearm; and one of ecthyma of the lower limb. These pictures are all exceedingly meritorious, and the representation of pemphigus strikes us as particularly successful.

We congratulate Dr. Duhring on the completion of his task, and will sum up our estimate of the work as a whole by saying that it includes accurate and artistic representations of well-selected cases from a wide range of skin diseases, accompanied by descriptions and comments which adequately reflect the present state of dermatology, so far as they go.

BOOKS AND PAMPHLETS RECEIVED.—A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases. By Alonzo B. Palmer, M.D., LL.D., Professor of Pathology and Practice of Medicine, and of Clinical Medicine, in the University of Michigan, etc. New York: G. P. Putnam's Sons, 1882. Pp. xiii-903. [Price, \$5.] ===== The Human Brain: Histological and Coarse Methods of Research. A Manual for Students and Asylum Medical Officers. By W. Bevan Lewis, L. R. C. P. (Lond.), Deputy Medical Superintendent to the West Riding Lunatic Asylum. London: J. & A. Churchill, 1882. Pp. xv-163. [Sheets.] ===== Sarcoma and Carcinoma: their Pathology, Diagnosis, and Treatment. By Henry Trentham Butlin, F. R. C. S., Assistant Surgeon and Demonstrator of Surgery and of Diseases of the Throat, St. Bartholomew's Hospital, etc. London: J. & A. Churchill, 1882. Pp. ix-202. [Sheets.] ===== Atlas of Gynecology and Obstetrics. By Dr. E. Martin, Professor of Gynecology at the University of Berlin, and Dr. J. P. Maygrier, Membre de l'Académie Royale de Médecine, etc., containing 475 plain and 35 colored illustrations. The explanatory text translated and edited, with additions, by William A. Rothacker, M.D., Pathologist to the Cincinnati Hospital. Cincinnati: A. E. Wilde & Co. Folio. ===== Le Sabbat des Sorciers. Par Bourneville et E. Teinturier. Paris: Bureaux du Progrès Médical, 1882. [Pamphlet.—Bibliothèque diabolique.] ===== The Psychology of the Salem Witchcraft Excitement of 1692, and its Practical

Application to our own time. By George M. Beard, A. M., M. D., etc. New York: G. P. Putnam's Sons, 1882. Pp. xx-112. [Price, \$1.] ===== The Vest-Pocket Anatomist. By C. Henri Leonard, A. M., M. D., etc. Eleventh edition. Detroit: Illustrated Medical Journal Co., 1882. Pp. 82. [Price, 75c.] ===== Transactions of the American Gynæcological Society, vol. 6, for the year 1881. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. viii-542. ===== Second Annual Report of the Astronomer in charge of the Horological and Thermometric Bureaus in the Observatory of Yale College. ===== Forty-eighth Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. ===== Balloon Society of Great Britain. On Aconitine Poisoning. A Lecture . . . by Dr. Ferdinand Springmühl, M. A. [Pamphlet.] ===== Proceedings of the Academy of Natural Sciences of Philadelphia, Jan.-Apr., 1882. ===== London Water Supply. Report . . . for the month ending April 30, 1882. [Pamphlet.] ===== Correspondence with T. Spencer Wells, F. R. C. S., etc., on Ovariectomy. Third edition, with an appendix. London: Pickering & Co., 1882. [Pamphlet.] ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.

Clinical Reports.

WOMAN'S HOSPITAL.

Reported by ANDREW F. CURRIER, M. D.

(SERVICE OF DR. THOMAS ADDIS EMMET.)

LACERATED CERVIX; RETROFLEXION.

Mrs. C., Brooklyn, N. Y., aged twenty-eight. Admitted May 7, 1881. Married ten years; three miscarriages, one child born one year and a half ago, the labor being instrumental. She has been sick since that time.

Subjective Symptoms.—Menstruation began at fourteen, is irregular and painful, lasting from four to seven days; sometimes it is quite profuse. Bowels regular. Walking is painful. She has pain in the back, a feeling of pressure against the rectum, pain in the legs.

Objective Symptoms.—She is very pale and nervous, but is disposed to resist her bad feelings. Vaginal examination shows the cervix torn on the left side to the utero-vaginal junction. The uterus is somewhat retroflexed.

May 10th.—The cervix was closed by Dr. Emmet, six sutures being used.

May 23d.—The case has pursued a perfectly normal course, the bowels have been kept freely open, and to-day five of the sutures were removed, the line of union being perfectly satisfactory.

May 30th.—The remaining suture was removed. The severe nervous symptoms are disappearing.

June 6th.—Retroflexion pessary fitted.

June 14th.—Discharged cured.

Remarks.—This case demonstrates the beneficent effects of closing a lacerated cervix. Not only was the patient's physical condition a bad one, but decided mental disturbance awakened fears of insanity. The injury to the cervix was the only lesion discoverable, and its repair was followed by the happiest consequences.

VESICO-VAGINAL FISTULA.

Mrs. R., Pennsylvania, aged forty-three. Admitted May 5, 1881. Married twenty-five years; eight children, one miscarriage. Her labors have all been severe; the last one was instrumental, and the patient has been suffering ever since.

Subjective Symptoms.—Menstruation began at eighteen, has *not* been regular, lasts from two to three days, and is painful. Severe metrorrhagia occurred three years ago, at intervals of nine days. The urine flows through the vagina constantly. The bowels are regular, the general health and appetite good. Walking is troublesome, the left leg being partly paralyzed since her accident.

Objective Symptoms.—Examination revealed a small, nearly circular opening in the anterior wall, just forward of the cervix. A portion of the anterior lip had sloughed away, and the surrounding tissues were hard and contracted.

There had been no previous treatment with reference to the fistula. The accident occurred January 12, 1881, and its recent date made the case a favorable one.

May 24th.—The patient has been receiving the hot vaginal baths since her entrance, and treatment directed to her general condition, which is now very good.

The fistula was closed to-day, the edges being pared, and the opening enlarged so that it became about an inch and a half in length, in the direction of the long axis of the vagina. Eight sutures were used, and the os uteri still opened into the vagina, instead of into the bladder, as is sometimes necessary after so extensive sloughing. The patient's knees were then tied together, and she was kept in bed, upon her back, for about ten days, a Sims's catheter being retained in the bladder.

A portion of the stitches were then removed, and, as the entire wound had not healed, the other sutures were allowed to remain ten days longer. The result was perfectly satisfactory. There were no unfavorable symptoms, with the exception of some swelling of the feet during the latter part of her convalescence. This was remedied by bandaging and elevation. An examination of the urine revealed no kidney trouble.

June 20th.—She was discharged cured.

SUB-MUCOUS UTERINE FIBROID.

Mrs. P., New York, aged forty-three. Admitted October 27, 1879. Married twenty-one years; never pregnant; has been sick since her marriage. She had a severe hæmorrhage on her wedding night, and for the succeeding eight years was flowing all the time, sometimes profusely. A polypus of the uterus was then removed by ligature, and, four years later, an attempt was made to remove a similar growth, but the weak condition of the patient prevented the completion of the operation. From that time until 1877 there was no flow, except after severe fatigue. Since then hæmorrhage has been almost constant.

Subjective Symptoms.—Menstruation began at sixteen years of age, and was regular and normal until marriage. Walking causes pain and flowing. The

bowels are constipated. She has pains in her head, back, shoulders, breasts, and abdomen. Her appetite is poor.

Objective Symptoms.—She is much reduced and anæmic.

October 27th.—A tent was introduced into the uterine canal.

October 28th.—The uterus is not sufficiently dilated. The vagina and cervix are carefully cleansed, iodine is introduced into the cervical canal, a vaginal injection of hot water given, and a tampon then applied.

October 30th.—The tumor was found to be polypoid and diffuse, almost like fungosities. Portions were removed with curette and forceps, and a hot-water injection was given, followed by a tampon.

November 17th.—Discharged improved.

September 20, 1880.—Re-admitted. Since her discharge there have been severe bearing-down pains, metrorrhagia, and leucorrhœa.

September 23d.—A tupelo tent was introduced, and another upon the day following. The uterus did not dilate satisfactorily, and the patient left the hospital October 2d, unimproved.

May 2d, 1881.—Re-admitted. Hæmorrhages still excessive. Patient's complexion a dirty yellow.

May 6th.—The uterus having been partially dilated, Dr. Bache Emmet performed posterior section, in hope of being able to grasp and remove the uterine growth. It had apparently retracted, however, and was quite out of reach. The wound was kept open by stitching the mucous membrane of the cervical canal on either side with the corresponding external mucous membrane. Two sutures were thus placed on either side, and one at the angle. The following day the temperature rose to 103·75° F., and the patient was placed upon the Kibbie cot and douched at frequent intervals, beginning with the water at a temperature of 90° F., and ending in fifteen to twenty minutes with a temperature of 65° F.

Severe peritonitis continued for the six succeeding days, the temperature reaching 103°–104° (in the vagina) toward midnight, then dropping gradually to 100°, beginning to rise again about mid-day. The pulse ranged between 80 and 100, preserving its usual relation to the temperature. Frequent carbolic vaginal injections were used, and no hæmorrhage occurred of any importance. Opium was given as required, per rectum and hypodermically. The general régime of treatment was as in a severe case of ovariectomy.

The patient is a woman of remarkable energy, especially when the terrific drain upon her system, lasting for so many years, is considered. She recovered quickly after the seventh day from the date of operation.

May 24th.—Discharged improved.

The peritonitis in this case occurred at a time when the foul condition of the streets and atmosphere in this city was accompanied by septic troubles of the most intractable nature. What the future history of this case will be it is difficult to say. The uterus dilates so difficultly, and the patient is so beyond the influence of drugs ordinarily used in such cases, that all attempts to bring the growth within reach of proper instruments are likely to prove ineffective.

A hopeful feature in the case is the short time which must elapse before the menopause, which often brings relief to such sufferers.



Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

A REGULAR meeting was held March 7, 1882, Dr. BACHE McE. EMMET, First Vice-President, in the chair.

REMOVAL OF CYST OF THE BROAD LIGAMENT.—Dr. P. F. MUNDÉ narrated the history of a case as follows: The patient, a woman, twenty-two years of age, consulted him six or seven weeks ago with regard to a tumor in the abdomen. She had been married about a year and a half, and during the past year had noticed an increase in the size of the abdomen on the right side, which at the time he saw her had attained about the size proper to pregnancy at the seventh month. During the last three or four months her health had become impaired; she had grown thinner, and was decidedly anæmic in appearance. On external examination of the abdomen he found a uniformly fluctuating tumor, apparently a monocyst. The sound, passed into the uterus, revealed retroversion. The diagnosis of ovarian cyst was made, probably a monocyst. Aspiration was not resorted to for the reason that in the only case in which he had made use of it inflammation was excited within the cyst, decomposition of its contents took place, peritonitis developed, and he was compelled to perform ovariectomy under very unfavorable circumstances, the result being death on the sixth day from septic pyæmia. He had no reason to suppose the present case was one of cyst of the broad ligament, the patient's history, her anæmic condition, and the physical examination, pointing to cyst of the ovary. It was true, it had been said that unilocular cysts of the ovary did not attain to a size larger than an adult's head, but there were exceptions to this rule. Even had he known beforehand that the case was one of cyst of the parovarium, it was probable he would have operated, for the reason that, although a number were cured by tapping, an equal or larger number refilled, and finally required an operation for their removal. He operated six weeks ago. On opening the abdominal cavity, but one adhesion was found (to the omentum), which was divided; the cyst was punctured, and there flowed forth a clear, slightly bluish-colored fluid, which led him immediately to remark that it was, without doubt, a cyst of the broad ligament. After the cyst was emptied of its contents, about five quarts of fluid, the pedicle was sought for. The tumor was found to be firmly attached to the pelvic cavity on the right side, and could not be enucleated from its peritoneal envelope without undue force. It was therefore cut off, and the edges of the stump were united with those of the abdominal wound by silk sutures. A drainage-tube, consisting of the barrel of a hypodermic syringe, to which a piece of rubber tubing was attached, was introduced instead of the regular drainage-tube, which was found to be altogether too long. All antiseptic precautions were taken with the exception of the use of the spray. The patient rallied well; the temperature at no time rose above 101° F., nor the pulse above 96. The stitches were removed between the tenth and the fourteenth days, the patient left her bed on the sixteenth, and the private hospital, to go to her home, on the twenty-third day. Six weeks after the operation she had gained a great deal in

weight, and the wound had entirely closed, except a very small opening into which the smallest-sized drainage-tube was yet introduced. The case was interesting principally with regard to the difficulty of diagnosis. Had tapping been resorted to, it could not, according to the recent investigations of Dr. Garrigues, have led to a positive diagnosis between cyst of the ovary and of the broad ligament by a microscopical or chemical examination of the contained fluid. The only positive differential means—namely, the presence of the ovary by the side of the tumor—could not be appreciated in this case.

Dr. H. J. GARRIGUES remarked that monocysts of the ovary sometimes acquired a very considerable size. He had seen one, in a patient operated on by Dr. Thomas, as large as a multilocular ovarian cyst, or any cyst whatever of the broad ligament. Dr. Mundé had said that when he saw the fluid come forth from the cannula he was certain it came from a cyst of the broad ligament. Dr. Garrigues did not believe it possible to reach that conclusion. He had sometimes found fluid entirely like spring water come not only from an ovarian cyst, but even from a multilocular ovarian cyst. In a case operated on by Dr. Bozeman, in which there was a multilocular cyst of the ovary of that particular kind in which the epithelium is ciliated, the fluid was more like water than that of the cyst in Dr. Mundé's case, which he had also seen. Dr. Mundé had spoken of his pointing out the impossibility of making a diagnosis by a microscopical and chemical examination of the contents of the cyst. There were cases which were so marked in rather peculiar characteristics that one could say there was the greatest probability of their being cysts of the ovary or of the broad ligament, as the case might be. He meant only to say that it was not possible with the aid of the microscope to point out, with absolute certainty, whether a fluid came from the one or the other. He could not speak with as much certainty regarding the chemical test. The number of cases at his command had been too small to allow of drawing a general conclusion. But as yet he had not found the fluid coagulate by heat in a single case of cyst of the broad ligament, whereas in every case of cyst of the ovary it coagulated to some extent. As to treatment, had Dr. Mundé's case terminated less favorably, as it might have done, he would have greater occasion to regret the operation, and the fact that he had not aspirated. Even in cases in which the fluid did re-accumulate after tapping, it returned slowly, and a second tapping might be resorted to. He had assisted in tapping a patient with cyst of the broad ligament, who had been tapped five years before by the late Dr. Atlee, of Philadelphia. He thought, therefore, that, if there was any doubt about the diagnosis, the patient should be given the benefit of the doubt by a primary aspiration. As to the liability to the development of peritonitis after aspiration, it depended very much upon how it was done. It was a simple procedure, but required antiseptic precautions. The spray was not needed, but the instrument and the patient's abdomen should be thoroughly disinfected. In that case the danger of the occurrence of peritonitis and suppuration was very small.

Dr. MUNDÉ remarked that if the diagnosis could not be made by tapping he could not see how it would affect the treatment, which then would be the same, whether tapping were resorted to or not. In the case referred to he disinfected the instrument with carbolic-acid solution before tapping, but did not disinfect the abdomen as spoken of by Dr. Garrigues. Dr. Noeggerath had since advocated washing out the cyst with a solution of carbolic acid. With regard to treatment, Spiegelberg, and recently Ahlfeld, of Leipsic, and perhaps others, had

operated after making the diagnosis of cyst of the broad ligament. Ahlfeld had operated in one case in the same way he (Dr. Mundé) had done, leaving in a drainage-tube, and the patient was still carrying this at the time the case was reported, six months after the operation. In another case he enucleated the cyst and dropped its peritoneal envelope, and prompt recovery took place. Ahlfeld therefore preferred the latter method.

Dr. GARRIGUES further remarked that it was very important to empty the cyst, or at least the compartment entered, entirely of its contents on tapping. In the cases reported, resulting fatally, but a little of the fluid was withdrawn, or else antiseptic precautions had not been observed. It might require more time and care to empty the cyst entirely of its contents, and to observe antiseptic precautions rigidly; but, since, if we did not do so, we should be subjecting the patient to great danger, the path of duty was plain. He did not see any necessity for making an injection and washing out the cyst unless the fluid withdrawn was found to be purulent. As to the value of tapping and examining the fluid, Dr. Mundé himself had admitted that if the contents closely resembled water the chances were ninety-nine in a hundred that they belonged to a cyst of the broad ligament, not of the ovary.

TARDY DEVELOPMENT OF SCARLATINAL NEPHRITIS.—Dr. J. F. JENKINS narrated the facts of a case as follows, and asked the society to draw the inferences: In a well-to-do family in Dobb's Ferry a death occurred September 6, 1881, from diphtheria following scarlet fever. The family went to the sea-side for a month, and in the mean time the house was thoroughly disinfected, regardless of expense, by an officer of the New York Health Board. During the fatal illness the mother remarked to him one day that on the day previous another of the children had what the servant girl called nettle-rash. It was so trifling, producing no symptoms, that little attention was paid to it. After a month they returned from the sea-side to the house, and remained there until January, when they came to New York, and, five months after the fatal illness, and the appearance of the blush on the child's skin, blood corpuscles and a moderate amount of albumen were found in his urine. The physician who saw him believed it to be the result of an attack of scarlet fever, which the child must have had while in the country. Was it likely that a scarlatina dating back over five months was the cause of the appearance of important renal changes?

Dr. JOHN BYRNE suggested that the nephritis might have been excited by cold. He had known nephritis to follow scarlet fever after a month, six weeks, or possibly two months, but in the present case, five months having elapsed, he should look for some other cause. Being asked by Dr. Jenkins if he did not think, had the nephritis been present after the thirtieth or sixtieth day from the appearance of the blush, it would have produced positive symptoms before the hundred and fiftieth day, he replied in the affirmative.

Dr. J. E. JANVRIN had recently attended cases in which the nephritis made its appearance as late as the fifth or sixth week after the fever, but not later. In one case there was no desquamation until the nephritis developed, when it occurred on the body and extremities; in other respects the scarlatinal attack was normal.

Dr. C. S. WARD could see no reason why Dr. Jenkins's case might not have been one of progressive kidney disease, discovered at a late date.

COCYGOGYNIA CURED BY REMOVAL OF A PART OF THE COCCYX.—The case was suggested to Dr. JANVRIN, in whose practice it occurred, by hearing Dr.

Ward's case mentioned in the minutes of the previous meeting. The patient, a lady forty years of age, and the mother of several children, had been an invalid during several years, and, in addition to a uterine antelexion, had suffered very much from coccygodynia, especially during the last two years. The last two bones were found, on examination *per rectum*, to be separated from those above. This condition was probably the result of labor. Dr. Janvrin removed the entire coccyx, in December last, by the same method as that adopted by Dr. Ward. All of her symptoms and suffering then disappeared. The wound was quite slow in healing.

Dr. W. R. GILLETTE said that three months ago a German girl was admitted to his ward in St. Francis's Hospital, supposed to be suffering with coccygodynia, dating back two years to a severe labor. Previous to that she had been perfectly well. When admitted to the hospital, examination showed complete absence of any uterine or rectal disease. The pain in the region of the coccyx, both on sitting down, which she could not do squarely, and when the bowels moved, was, as she described it, intolerable. The pathological condition, as in most of these cases, could not be discovered, and had its only indication in pain when pressure was made from without or from within. She was kept under observation and treatment, both general and local, for several weeks, and the case was finally considered a suitable one for removal of the bone; but in the mean time he determined to try the effect of iodoform. A capsule, containing five grains, was introduced into the rectum night and morning, and within two weeks all pain had ceased, and could not be provoked by pressure from without or from within. The cure was certain, and appeared to be permanent, as the patient had not returned since her discharge from the hospital. Whether it was a mere coincidence, or due to the therapeutic effect of the iodoform, would be difficult to answer, but he thought the method worthy of further trial in the future. There was no question but that in this case it was beneficial, on the *post hoc ergo propter hoc* theory. There was no disease of the rectum or of the vagina in this case.

Dr. GARRIGUES narrated a similar case, which occurred in a servant girl in his employ, who was attended by Dr. Mundé. She fell and struck upon the sacrum, and afterward had the symptoms mentioned by Dr. Gillette. Dr. Mundé prescribed suppositories of iodoform, and she recovered entirely, although before she was unable to walk or attend to her household duties. The bone was not fractured or dislocated, but was very movable.

DISORGANIZATION OF THE PUBIC SYMPHYSIS, DUE TO IMPROPER USE OF THE FORCEPS.—Dr. GILLETTE narrated the case as follows: Lena L. was admitted into St. Francis's Hospital December 24, 1881. She looked miserable and waxen in appearance, as if she were in a condition of chronic pyæmia. Four weeks previously she was taken in labor with her first child. She was in the care of a midwife, and had been in labor about four hours when the midwife sent out for a physician who lived in the neighborhood. He came, and in a great hurry placed the patient on the side of the bed, put on the forceps, and, without an assistant or the use of an anæsthetic, delivered her, using a great deal of violence, and giving her much pain, her recollection of which was simply one of horror. She could not give any details of her history from that time up to the time of coming into the hospital, but could only say that she had been constantly ill. When admitted to the hospital, the perinæum was found torn through into the rectum and half way up the recto-vaginal septum; the cervix

uteri had been lacerated frightfully, the laceration being of the stellate variety; cicatrices in the vagina showed that that canal had been lacerated also. The left leg and thigh were rotated outward and somewhat flexed. In Scarpa's space could be felt a hard mass, which, it was thought, might be the head of the thigh bone. There was an apparent depression in the gluteal region. On examining the patient in the upright posture, held so by assistants, Dr. Gillette thought it was a case of luxation of the head of the femur on to the pubic bone. On further examination the symphysis pubis was found to be so separated and movable that the whole pelvis was apparently in a state of disintegration. Pressure over the symphysis produced extreme pain. Not being confident as to the non-existence of luxation at the hip joint, his colleague, Dr. Howe, was requested to examine the patient, which he did while she was under the influence of ether. Dr. Gillette was not present at the time of the examination. On pressure the mass in the left Scarpa's space disappeared simultaneously with a gush of pus through the vagina. Then, on examination, it was found that there was no luxation of the hip joint. This purulent accumulation had so disturbed the muscular equilibrium as to cause exactly the appearance of luxation, as was well known sometimes to happen in cases of abscess in that region. It was supposed that with this free discharge of pus the patient would recover. On very careful examination of the vagina, Dr. Gillette failed to see the point of exit of the pus, but thought it possible he felt it behind the symphysis. A day or two afterward there occurred a swelling of the right leg, extending from the saphenous opening downward on the inner aspect of the thigh to the ankle, which increased for three or four days, and then gradually subsided. It was at first thought it might be due to the burrowing of pus from above, but as this supposition was not borne out by examination, and as the swelling greatly subsided, an incision to relieve the purulent accumulation was not made. After its subsidence the patient had rigors, cold sweats, a hacking cough, purulent expectoration, and anorexia. There was a constant purulent discharge from the vagina, which was always greatly increased by putting the patient in the semi-recumbent posture. One night she was seized with epileptiform convulsions, which lasted half an hour; on the next day, by one lasting two hours; and on the next day, while talking with friends, she was suddenly seized with a convulsive fit and immediately expired. The following was the post-mortem history, by Dr. E. C. Wendt, the curator:

"Rigor mortis pronounced. Inspection showed a ruptured perinæum. No fluid in the abdominal cavity. Position of organs normal. Spleen much enlarged, rich in blood, and abnormally soft in consistence. Kidneys slightly congested, otherwise normal. Liver pale and flabby. Stomach and intestines apparently healthy. The pelvic organs appeared natural from within, barring some enlargement of the uterus. Further examination showed that the symphysis pubis gaped, and that burrowing of pus had occurred in front of it, destroying a large portion of the tissues beneath the mons Veneris. The cartilage of the symphysis was entirely destroyed, and the pubic bone denuded of periosteum to a large extent. The bone had a roughened surface, but was not soft or friable. The pus had also found its way on either side of the pubes down the anterior and inner aspect of the thighs. Two large pouches had then been formed, and pressure, especially upon the right one, caused a flow of the purulent fluid from in front of the symphysis. These pouches extended on either side, along the course of the femoral vessels, about midway down the thigh. A communication be-

tween the vagina and the pubic sac, although not directly visible, must have existed, since the fluid could also be made to ooze from the genital canal by pressure upon this pouch. The uterus was softer than in health, its cavity slightly enlarged, but in other respects normal. The bladder and ovaries appeared normal. The thoracic organs presented no noteworthy morbid alterations. The heart was small and flabby. The valves were normal. The lungs showed purulent bronchitis, about equally distributed through all the lobes, but there were no metastatic abscesses. The brain was not examined."

Dr. Gillette further remarked that the case was interesting and somewhat remarkable. In the first place, it had a moral with regard to unjustifiable violence, which had undoubtedly been used during delivery; in the second place, it was interesting in the clinical history as already given; and, thirdly, had the nature of the case been fully understood, and the pouch cut down upon and thorough drainage made, the patient might have recovered.

Dr. WARD failed to see any necessarily direct dependence of the lesions and symptoms presented by the patient upon undue violence during delivery.

Dr. GILLETTE again referred to the laceration of the cervix, of the vagina, and of the perinæum, the separation of the symphysis, the statement of the patient, and the known reputation of the physician, whose name he preferred not to mention.

Dr. F. P. FOSTER remarked that the separation of the symphysis might possibly have occurred from inflammation in no way connected with traumatism.

Dr. MUNDÉ remarked that it was well known that separation of the symphysis might be caused by the use of the forceps, force being exerted in a false direction. The pubic bone had even been known to be fractured. The child might be born alive, since the undue force was not expended upon its cranium.

Dr. GILLETTE remarked that separation of the symphysis had occurred during normal labor in his practice, and the text-books recognized the liability to this accident, especially in protracted labor or during undue violence. A certain amount of force would separate the symphysis in one woman, while in another it could scarcely be effected by dynamite. It was separation of the symphysis in connection with the other symptoms which led to the supposition that violence was used with the forceps in this case.

Dr. WARD thought violence with the forceps would have caused pelvic cellulitis, cystitis, or some other internal lesion not mentioned as being present in this case.

DYSMENORRHOEA RELIEVED BY REMOVAL OF A HYPERÆSTHETIC HYMEN.—The case occurred in the practice of Dr. ROBERT WATTS. The patient, a lady, nineteen years of age, said she commenced to menstruate at the age of twelve. The periods were regular, but were accompanied by a great deal of pain—a feeling of fullness and bearing down in the pelvis, and pain in the back. There was also headache, described by her as sick headache. There was disturbance of the stomach. These symptoms lasted several days; the flow continued from seven to nine days. It was slow, and sometimes was in the form of clots. This condition had existed ever since she commenced to menstruate. About two years ago she consulted a physician in Chicago, who made an examination, and told her that she was malformed, and was "not a natural woman." This distressed her very much, and she continued to suffer in the same way until Dr. Watts saw her. On attempting to make a vaginal examination, he found the parts exquisitely sensitive, and was unable to introduce the finger. This he supposed was due to the

existence of vaginismus, but more careful inspection revealed a very close hymen, which was somewhat elastic, and could be pushed up before the finger a certain distance, although it caused exquisite pain. In its center was an opening large enough to admit an ordinary uterine probe. Owing to the condition of the parts, no examination could be made until after the hymen had been cut. Nothing abnormal could be discovered about the uterus. Ten days later she menstruated without any pain, without any headache, or any of the uncomfortable symptoms of which she had previously complained, and she had since remained perfectly well. She had been taking singing lessons, but her voice had become so weak that her teacher had rather advised her to discontinue them; since the operation, however, he had spoken to her of the great improvement which had taken place in her voice. Whether this change in the voice was due to the general improvement of the health, or to the removal of this source of irritation, Dr. Watts was unable to say. He had never seen a similar case.

Dr. MUNDÉ suggested that the case might be explained on the principle of reflex irritation, the cause of which being removed, the symptoms disappeared.

Dr. WATTS further remarked that while cases of close hymen, even after years of married life, were not very uncommon, so far as he knew they very seldom produced dysmenorrhœa, and he thought this case was exceptional in that regard.

Dr. FOSTER remarked that this case was interesting as reminding us how various might be the causes of dysmenorrhœa; and with regard to this particular case he should think it probably was indeed a case of obstructive dysmenorrhœa, the obstruction, however, not being due to the small size of the opening in the hymen, for it would seem that that was large enough to give exit to the menstrual fluid, but rather to the irritable state of the hymen, which probably gave rise to muscular spasm at the outlet of the vagina, with consequent retention of the menstrual fluid.

Dr. WATTS remarked that such had been his view of the case, and added that there had been considerable leucorrhœa, which probably acted as an irritant between the periods, and the irritation was further increased at the periods by the menstrual fluid to such an extent as to set up muscular spasm at the vaginal outlet, producing obstruction.

ABORTION WITH ADHERENT PLACENTA.—The case was narrated by Dr. MUNDÉ. The day before, he was called to see a woman who had been attended in an abortion at the fourth month, four days before, by a midwife. He was told that the placenta had not been expelled nor removed, and that the patient was in a very bad condition, and he found such to be the case. The midwife had removed the fetus, but had been unable to remove the placenta, and contented herself with giving vaginal injections. The temperature was 103.5° F. in the mouth, the pulse 130, the complexion sallow, and the expression anxious; she had had rigors. The offensiveness of the discharge from the vagina had been kept down by frequent injections of carbolized water. The uterus was well dilated, and two fingers could be passed up without difficulty. He touched what he supposed to be a portion of placenta, and passed a large, dull wire curette, with the intention of removing this mass, but found his efforts opposed by an ante flexion of the uterus, which necessitated the use of one hand on the abdomen, while the curette was directed by the other. He now found the inner surface of the uterus perfectly smooth, and, after several attempts, was unable to detach any portion of the placenta with the curette, nor was he able to succeed

after introducing Sims's speculum and drawing down the cervix uteri. The patient was placed on her back, three fingers were introduced as far as possible, the uterus was pressed down from without, and he was then able to find a loose portion of placenta of the size of the end of his thumb. At this point he began to work, but it was with the greatest difficulty, and after long and very tiresome efforts, that the placenta was removed piece by piece. One small superficial irregularity could not be removed. The uterus was then washed out with hot carbolized water and stimulants were given. This morning the temperature in the mouth was 98° F., the pulse under 100, the patient was feeling well, and he believed she would make a good recovery. [In a subsequent note to the Secretary, Dr. Mundé reported that the temperature rose again on the following day, owing to retention of lochial discharge. The uterus was washed out through a Chamberlain's tube, and the patient was given into the charge of Dr. Grandin, as Dr. Mundé was about to perform an ovariectomy, and naturally could not attend such a case. In spite of frequent uterine irrigation, quinine, and salicylate of sodium, the temperature went up to 106°, and the patient died of septicæmia on the seventh day after the removal of the placenta.]

A few years ago he was called to see a somewhat similar case. He was informed by the physician who called him that there had been a miscarriage at the fifth month, five days previously, that the placenta had been retained, and that there had been post-partum hæmorrhage. When he saw the patient she was nearly pulseless, very much collapsed, and there was an exceedingly offensive discharge from the vagina. The physician said he had tried to remove the placenta, but the uterine cavity was so small that he had given it up, and contented himself with injecting an antiseptic fluid. It was necessary to give the patient hypodermics of whisky before attempting to remove the placenta, which was afterward done with the greatest ease. It was intensely putrid. The uterus was then washed out with antiseptic fluid, and the patient made a good recovery. In the one case the placenta was allowed to remain through the carelessness of the physician, in the other it could not have been removed by the efforts of the midwife who attempted to do so, but both cases illustrated the great danger of leaving the placenta to decompose and set up septicæmia.

HENRY J. GARRIGUES, M. D.,

B. F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex-officio*,

Committee on Publication.

A STATED meeting was held March 21, 1882, Dr. BACHE McE. EMMET, First Vice-President, in the chair.

VESICAL CALCULUS.—The specimen was removed by Dr. T. A. EMMET under the following circumstances: The patient, a woman, about thirty years of age, was admitted to the Woman's Hospital more than two months ago, having been complaining for about six years of symptoms attributed to pelvic cellulitis. The uterus was retroverted and fixed, from pelvic inflammation. Being unable, after two months' treatment in the hospital, to relieve the great irritation of the bladder, with constant desire to pass water—symptoms attributed to the cellulitis and the position of the uterus—he determined to make a vesico-vaginal fistula through the base, that the bladder might remain at rest by the free escape of urine, and thus avoid ultimate disease of that viscus. There being some casts and pus in the urine, and the condition in doubt, she was given chloro-

form instead of ether; but she took the anæsthetic badly. As soon as the bladder was entered he detected with the sound a stone pocketed in its posterior wall, just in front of the uterus, of which only a very small portion projected within from the wall. As soon as the fistula was made, it was turned out of its pocket with the finger with difficulty and removed. This stone was found to have a very rough surface, to be very hard, and to weigh nearly an ounce and a half. It undoubtedly had been the source of all her trouble, and had caused the cellulitis. Had it been found and removed in the first place, instead of coming to the conclusion that all her symptoms were dependent upon the cellulitis, she might have been saved two months' useless treatment, as the inflammation could not be removed so long as the exciting cause remained. The retroversion of the uterus had been caused by the encysted stone, acting as a fibroid would in the same position, as described by Dr. Sims some years ago.

The VICE-PRESIDENT said that seven years ago he had a similar case, which had passed through the same hospital. The patient had been under the care of several physicians, who had treated her for retroversion of the uterus and pelvic cellulitis, and for a time he did the same, but, in order to relieve existing cystitis, which was out of all proportion to the other conditions, he resolved to cut into the base of the bladder and make a fistulous opening. At the outset of the operation he introduced a sound and struck a stone, in about the situation described by Dr. T. A. Emmet. It was almost entirely encysted, and was of about the size of a hickory nut. After its removal the patient improved greatly, all prominent symptoms, in fact, being subdued, but the site of the encysted stone remained sensitive, and even now caused some irritability of the bladder, necessitating applications from time to time. The fistula was closed after about a year.

RUPTURED OVARIAN TUMOR.—The case was related by Dr. P. F. MUNDÉ because it had some peculiarities. The patient came to his clinic at the College of Physicians and Surgeons six weeks or two months ago. She was forty-five years of age, and about a year ago first noticed an abdominal tumor, which had now attained a large size. Her health had become greatly impaired, particularly during the last few months, and demanded active interference. The tumor was apparently almost solid, and he was somewhat in doubt whether it was a fibrocystic tumor of the uterus or a multilocular tumor of the ovary, but thought it was the latter. With the assistance of Dr. Lusk, Dr. Wylie, and some others, he performed ovariectomy March 11th. The patient having been etherized, some clear fluid was withdrawn with the aspirator. The recti muscles were found to be separated, and the abdominal wall was very thin. When the abdominal cavity was entered it was found to contain about half a pint of thick colloid material, which, as was proved by subsequent examination of the cyst wall, had some time previously found exit through a small opening in one of the cysts on the posterior surface of the tumor, which was recognized by its yellow discoloration and collapsed condition. The tumor, which weighed thirty-four pounds with its contained fluid, was separated from its large attachments to the bladder and omentum, and removed, the abdominal cavity was thoroughly cleansed, the wound was closed, and the patient had not since presented an unfavorable symptom. Half the stitches were removed to-day. Listerism, excepting the spray, was observed. The case showed that the escape of colloid material into the abdominal cavity did not necessarily excite peritonitis or act in a toxical way.

Dr. H. J. GARRIGUES referred to a case operated upon and reported by Dr. Hunter, in which it was found, on opening the abdominal cavity, that there was

free colloid, i. e., gluish, material which had escaped through a long rent in one of the cysts of the tumor a week before; yet there was no sign of peritonitis.

Dr. T. A. EMMET remarked that recently he had had a similar experience in the escape of colloid fluid into the abdominal cavity, but he attributed the freedom from peritonitis to having washed out the abdominal cavity with hot water.

In reply to a question by Dr. B. McE. Emmet, Dr. GARRIGUES said he had examined the fluid of many cysts, and he had found no characteristics in the fluid from cysts of a cancerous or sarcomatous nature which he had not found as well in that from benign tumors.

BED-PAN.—The device was presented by Dr. M. A. Pallen, as being one convenient to use and easy for the patient.

APPARATUS AND METHOD FOR THE TREATMENT OF PELVIC CELLULITIS.—This was also presented by Dr. Pallen, who made some remarks on the lack of advantages, or rather the positive disadvantages, derived from nearly all the present methods of treating acute pelvic cellulitis, referring to two cases, one in 1866, and one in 1868, seen with Dr. Papin, of St. Louis, in which he punctured for and removed effused serous fluid in the early stages of the disease with Simpson's exploring needle, with the result of aborting it; to the vascular changes in the pelvic organs during the disease; to the evil influence of constipation; to the only limited benefits of Dr. Emmet's method of treatment by irrigation with hot water; to the doubtful benefits of applying blisters and tincture of iodine over the hypogastric region; to the usual long duration of the disease, with or without suppuration—facts which led him earnestly to look for a better method of treatment than those commonly employed—and he now suggested the idea of carrying out here the principle, so generally and properly taught in surgery, that the best way to produce absorption was by compression. After briefly reviewing the circulation of the pelvic organs, and the importance of decreasing vascular engorgements by laxatives, of which there were none better than cream of tartar and sulphur, or Hunyadi Yános water, when this region was the seat of inflammation, he described his plan for the employment of compression. The instrument consisted of a double water bag made of rubber, to rest over and below the iliac fossa on either side, and admitting of the use of a greater or less amount of hot-water pressure, according as the case might indicate. The pressure was equable, and caused the least possible amount of pain in this very sensitive condition. Counter-pressure could be made from within and below by the introduction of soft clay into the vagina with the patient in the genu-pectoral posture.

In reply to a question by Dr. T. A. Emmet, he said he allowed the clay to remain in place usually about two days, and then removed it and introduced a fresh portion. The change was made more for the satisfaction of the patient, who imagined the clay became dirty, than because of any special indication. He had treated seven cases by this method, and the result in two had been very satisfactory. Of the other patients, two did not carry out the directions, two were still under observation, and one had been only five days under the remedies. He had often treated cases of gonorrhœal elytritis by the introduction of soft clay, which perfectly molded itself to the varying form of the canal with the change in position of the patient, which was of the greatest possible advantage. Before its introduction he applied nitrate of silver, either in a saturated solution or in the form of the solid stick, to the inflamed mucous membrane, washing the whole surface at once with a solution of sodium chloride, renewing it every twenty-four or forty-eight hours. This was an excellent means of preventing the exten-

sion of gonorrhœal inflammation up into the uterus, and usually cut the disease short.

Dr. T. A. EMMET remarked that he had made use of fullers' earth for many years in the treatment of vaginitis, mixing it with glycerine, and had found it an excellent remedy, if not retained too long, but after becoming dry it was exceedingly irritating, and difficult to remove. Some one in Paris, whose name he could not recall, treated some uterine disease by packing the vagina with a stiff flaxseed poultice. It had occurred to him that this might be a far better material, as it would not become hardened like clay. He had found a great want of tolerance of such measures in acute pelvic cellulitis, and, while, theoretically, equable pressure should promote absorption, the patient would hardly endure the introduction into the vagina of a moderate amount of cotton saturated with glycerine. It had been asserted that even distension from the use of the water in a vaginal injection would increase the inflammation. But this was a contingency he believed could never occur so long as the water could escape from the vagina.

Dr. PALLER remarked that he believed it was in the few cases where the cellulitis occurred in front of the uterus that there was such a want of tolerance to manipulation and pressure; but that where it occurred posteriorly, as it usually did, tolerance was much greater, especially after the patient had been taught to assume the knee-chest posture, when clay could be introduced, and afforded positive relief. His experience with this method, however, had been limited.

COCYGO-DYNIA.—The following remarks on this subject, offered by Dr. T. A. EMMET, were suggested by the minutes of the previous meeting, which he had not attended. He could recall three cases in which patients had been sent to him, within five or six years, having symptoms of coccygodynia, and with a request that he should remove the bone. He found them to be cases of inflammation of the cellular tissue about the utero-sacral ligament, proper treatment for which caused the disappearance of all the symptoms pertaining to coccygodynia. He believed the two cases referred to in the minutes, in which a cure had been effected by the use of iodoform, belonged to this class. He had no doubt, however, that some cases of true inflammation of the os coccygis did occur, and required removal of the bone, but such were very rare. Since his attention had been called to the subject, he was surprised at the number of instances in which he found a distorted or immovable coccyx without its giving rise to any symptom.

Dr. MUNDÉ remarked that he had met with cases in which the coccyx was quite movable, and yet motion did not increase the pain which was present, and which was evidently due to cellulitis existing behind the uterus. A certain gentleman was at present writing up the subject of coccygodynia, believing that it was a matter of more importance than gynæcologists had commonly recognized, chiefly as to the frequent call for removal of the bone, a point regarding which Dr. Mundé could not agree with him.

Dr. M. D. MANN mentioned a case in which he operated for laceration of the cervix uteri, which was attended by all the symptoms usually belonging to that condition, and by retroversion. The patient recovered perfectly, but had symptoms of coccygodynia, which she attributed to the use of the Sims's speculum at the time of the operation. There was no other means of accounting for it, although he could not understand how pressure by the speculum could have so affected the coccyx.

SUDDEN COMA DURING MENSTRUATION RELIEVED BY VENESECTION.—The case

was related by Dr. H. GOLDTHWAITE, present by invitation. In the latter part of February a woman, who had been under treatment for retroversion and retroflexion of the uterus, with dysmenorrhœa, passed, without any exciting cause, so far as was known, suddenly, during menstruation, into a state of coma, which was preceded a few minutes by a feeling of great fullness about the head. In his absence two physicians saw the patient. Dr. Goldthwaite arrived later. Her respirations were then eight to the minute; pulse 140 to 150. Hypodermics of brandy, hot bottles to the feet, blisters, wet cups to the head, etc., had produced no effect. Being left alone in care of her during the night, Dr. Goldthwaite bled her from the arm, whereupon she began to recover, and an hour later had become semi-conscious, and went on to complete recovery. The urine had been examined, with negative results, and there had been no renal symptoms. Except during her periods, she was quite well; at those times she was a little nervous. She passed blood clots. The attack of coma, which was the only one she had ever had, was probably connected in some way with menstruation.

Dr. Pallen remarked that there was probably meningeal œdema, in some way related to menstruation, which was relieved by withdrawing some blood. He had had two patients who, during menstruation, had symptoms allied to those of meningitis, and which made him anxious as to their final result. One of them had been seen by Dr. Hunter, at Long Branch, in an attack of peritonitis.

PLACENTA SUCCENTURIATA PRÆVIA.—On March 17, 1882, Dr. MUNDÉ was called in consultation to a case of placenta prævia. The physicians in attendance had tamponed the vagina with cotton several times each day, for about four days, for profuse hæmorrhage due to the cause mentioned. The foetal heart and movements had ceased. The os was fairly dilated when Dr. Mundé saw the patient. The child was extracted after turning, the patient being under the influence of chloroform. It was dead and macerated, but not putrescent. The placenta at once followed the child. He was surprised to find, as the placenta lay outside, that the cord still protruded from the vagina. It was found to belong to a second placenta lying loose within the neck of the uterus. There was but one child. The first placenta, which had no cord, had evidently been prævia, and was attached by a kind of ligamentous band to the other placenta. The placenta that had been prævia measured five by six inches, and was lacerated, one of the fissures being evidently the source of the hæmorrhage. The second one, to which the cord was attached, measured six by seven inches, and had been situated on the left wall of the uterus. At the time Dr. Mundé saw the patient her temperature was 102.5° F. She died, after five or six days, of septicæmia. In the literature of the subject he had found several similar cases recorded—one exactly like this one. The placenta had been divided even into as many as three lobes. It was more likely to occur in placenta prævia because of the interference with the nutrition of the villi of the chorion in these attachments to the lower segment of the uterus. The child had been known to be forced through the ligamentous portion of the placenta in cases of placenta prævia by contraction of the uterus; it might much more likely occur when the membrane at the os was very thin.

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex-officio*,
Committee on Publication.

A STATED meeting was held April 4, 1882, Dr. CHARLES C. LEE, President, in the chair.

EXCEPTIONAL DEVELOPMENT OF THE PLACENTA.—The specimen, which was accompanied by a written history, was presented by Dr. H. J. GARRIGUES. [It will be given in a future number of the journal.]

Dr. W. M. POLK remarked that he had occasionally seen cases in which the amnion had become separated from the circumference of the placenta all the way to the cord, presenting to the naked eye exactly the appearance which was present here. The reflection of the amnion from the cord to the placenta, above the junction of the two, constituting such a fold, had also been seen. In this specimen it would seem that the surfaces had never been united.

OVARIAN CYST.—Dr. POLK presented the specimen, because of some features of interest connected with its removal. The patient, twenty-eight years of age, a native of Massachusetts, was in good condition; the growth of the tumor had been rapid, reaching a weight of forty pounds in a few months. It was adherent to the whole of the abdominal wall. This was especially marked on the left side, extending from the free border of the ribs to Poupart's ligament. Attempting removal in the ordinary way—that is, separating the adhesions by passing a sound and the hand from the incision upward and outward—large strips were torn from the abdominal wall. Mr. Wells's suggestion was then followed, of ligating and separating the pedicle, thus extracting the tumor base first. Fortunately, there were no adhesions to the intestines, so, passing the hand under the tumor, the posterior portion was drawn out, the adhesions to the wall being separated from without inward. The mass was found to have peeled off, leaving a smooth surface, not the ragged surface produced by endeavoring to separate the adhesions by manipulating from the incision outward. The pressing difficulty now was the hæmorrhage from the extensive oozing surface. Quilting the wall was considered, but fear of leakage from the suture punctures, the network of vessels being very close, caused it to be discarded. Finally the actual cautery was used upon the most persistent bleeding points. The wound was then closed, drainage from the lower angle being provided for. A heavy compress was placed over the oozing region, the whole, with the dressing, being held in firm position by adhesive plaster. Dr. Polk was disposed to think well of the actual cautery for such bleedings, even though they should be far removed from the incision. The patient made an excellent recovery, not an unfavorable symptom making its appearance.

Dr. B. F. DAWSON thought the danger from hæmorrhage was a serious objection to the use of the double ligature perforating the pedicle; he had known it to occur in several cases. The result showed that in this case the single ligature had been sufficient.

Dr. B. McE. EMMET remarked that instead of waiting for oozing to cease, which increased the amount of shock, he considered it preferable, as practiced at least by Dr. Addis Emmet, to gather the oozing portion of the abdominal wall together with sutures, which were allowed to remain for twenty-four or forty-eight hours.

Dr. POLK added that this method also was taken into consideration in the case that he had reported.

The PRESIDENT remarked that Dr. Keith was in the habit of waiting until, by some means, all oozing was checked before closing the wound.

Dr. GARRIGUES remarked that the method referred to by Dr. B. McE. Emmet,

of checking oozing, was first described by Dr. Kimball, of Lowell, Massachusetts, and likewise employed by the late Dr. Peaslee.

In reply to a question by Dr. Garrigues, Dr. Polk said that some strips of the peritonæum, which was badly torn in the removal of the tumor, were tied and cut off.

SLOUGHING FIBROID OF THE UTERUS; REMOVAL; DEATH FROM ACUTE SEPTICÆMIA.—Dr. H. D. NICOLL said that through the kindness of Dr. Thomas, who was absent, he was able to present a specimen with the following history: Mrs. G., a patient at the Woman's Hospital, aged forty-three years, had borne two children, and had one abortion. The last child was born eighteen years ago. She menstruated regularly until two years ago. Last fall she failed to menstruate during three months. There had been menorrhagia and metrorrhagia of late. At the time of coming into the hospital she was very anæmic, and, upon examination, there was found to be a large fibroid tumor filling the vagina, and extending apparently up to the fundus of the uterus, which could be felt reaching nearly up to the umbilicus. In addition to this fibroid, which was supposed to be single, there was a mass occupying a position to the left of the uterus, which was perfectly movable, gave to the touch the impression of being a hard, elastic tumor, and was supposed to be a subserous pedunculated fibroid. An attempt was made to improve the patient's condition somewhat before operating, but she grew no better, and, as it was found impossible to arrest the discharge of blood, it was decided to operate on Saturday last, April 1st. On Friday there began to be a sanious discharge of foetid odor. The operation required an hour and twenty minutes, and was done by Dr. Thomas, by removing piece after piece of the tumor with the scissors, as he was able to reach it. Close to the uterine wall the spoon-saw was used. No sloughy tissue remained. The several pieces which composed the entire tumor weighed between three and four pounds. The patient did perfectly well until Sunday night, the temperature not going above 100° F. At that time the temperature rose to 102.4°. The uterus was washed out with carbolized water every six hours after the operation. Her condition was good until Monday, at 3 p. m., when she suddenly had a severe rigor, and the temperature, which at 12 m. was 101°, rose to 107.3°. The pulse could not be counted. She continued in this condition, the temperature falling a little, until 11 p. m., when she died. No other symptoms than those mentioned were present. At the autopsy, twelve hours after death, moderate emaciation was noted. The lungs were normal, and absolutely without adhesions; the pericardial sac contained the usual amount of fluid. The heart was normal, excepting a slight amount of fatty degeneration on the ventricular endocardium. There were small decolorized post-mortem clots in all the cavities. There was no tympanites, or any evidence of peritonitis. The liver, spleen, pancreas, and kidneys were normal, but very pale and anæmic. The stomach was very anæmic, and was the seat of some post-mortem softening. The rectum and bladder were normal, but the mucous membrane was very pale. The posterior fornix of the vagina was covered with a greenish, sloughy mass, beneath which there had been considerable loss of substance. The uterus was thirteen centimetres in length; the thickness of its wall at the fundus was two centimetres. The entire inner surface consisted of a dirty-grayish, sloughy mass. On the posterior wall was a cavity five centimetres in diameter, filled with sloughy material. At this point the uterine wall was very thin. There were no signs of the original tumor. The right ovary was of normal size, being three and a half centimetres

in length. It contained four small cysts, two of which arose from corpora lutea. One of these was filled with clotted blood; the other contained clear fluid. The left ovary was entirely wanting, its site being occupied by a cystic tumor, probably multilocular, ten centimetres long, eight centimetres broad, and five centimetres thick. Its exterior surface was smooth. The tube and ligament were in their normal position. The blood was pale in color, and did not clot readily. The general appearances pointed to profound anæmia. There were no characteristic signs of septicæmia. The cause of death was, however, inferred to have been acute septicæmia. Microscopic examination of the blood showed a decrease in the number of the red corpuscles and a considerable increase in the relative number of the white corpuscles. Examination of marrow from the sternum showed a large number of white cells, with large nucleated cells, such as were found in conditions of great anæmia.

Dr. Nicoll then presented the following Report by Dr. W. H. Welch. "You will see that there is a dermoid cyst which has taken the place of the left ovary. This was filled with solid fatty material mixed with hair. The organs, except the uterus and ovaries, were normal, aside from a general anæmic condition. There was no notable enlargement or softening of the spleen. The inner surface of the uterus presented the sloughy appearance which you will observe. There was no peritonitis."

PURPERAL SEPTICÆMIA TREATED WITH PHENIC ACID.—Dr. Polk related a case of this sort. [See this number of the journal, p. 135.]

Dr. Polk asked Dr. R. F. Weir, who was present by invitation, what results had been obtained with phenic acid in the New York Hospital in the treatment of septicæmia.

Dr. WEIR replied that he had no knowledge of its having been used in the surgical wards of the New York Hospital, but it had been used in the medical wards in other than septic cases, such as typhoid fever, pneumonia, etc., but the results had not been encouraging. He had used it in several cases of septicæmia in the surgical wards of Bellevue Hospital, and the results had been most satisfactory, the high temperature being controlled at once, and, in one special instance, the patient delivered from a very critical condition. From twenty to thirty drops were injected per diem. It had also been used with advantage in a number of cases of erysipelas. No poisonous effects had been noted during its administration, although carefully looked for.

Dr. POLK said, further, that he had tried it in pneumonia and other conditions than septic ones, but without benefit.

Dr. GARRIGUES remarked that he had made use of phenic acid in obstetric practice, by the mouth and hypodermically, and had found it of benefit. Dr. Gillette had brought the matter up before the society some time ago.

Dr. BEVERLEY COLE, of San Francisco, present by invitation, presented several instruments of his invention, including an obstetrical forceps, a bivalve speculum, a gas-cautery apparatus, and a self-retaining rubber catheter. He also showed a set of Hegar's uterine dilators and an anteversion pessary made of celluloid.

PLACENTA PRÆVIA.—The case was narrated by the PRESIDENT, who had seen the patient in consultation with Dr. Ewing. She was badly rachitic, though the pelvis was normal. She had given birth to twelve children, eight at full term; in several of her labors there was placenta prævia, as there was also in the last. Sunday last hæmorrhage occurred without premonition, to the extent of syncope, which was treated by tamponing the vagina with such material as was at hand.

The patient had become nearly pulseless, and it was thought best to tamperize until she regained some strength. Hypodermic injections of brandy, of ergot, and of ergotine, were employed. After three hours uterine contraction suddenly came on, the tampon was expelled, the placenta came down into the vagina, and the right shoulder was found presenting; the child was turned, and extracted without difficulty, and the patient was now perfectly well. He narrated the case for the purpose of advocating this mode of treatment, which was contrary to that generally adopted—namely, either to attempt to dislodge the placenta, or force labor by dilatation. He had attended, or seen with others, quite a number of cases of placenta prævia, and where the latter methods of treatment had been adopted the result had usually been fatal; but by the expectant plan, allowing the patient to regain some strength after checking hæmorrhage, the final result was usually successful.

Dr. POLK considered the plan adopted by the President in this case to be the proper one; that, if the vagina were tamponed thoroughly, hæmorrhage would be checked, and we could wait for the patient to rally sufficiently for labor to progress, and the result would probably be good.

HENRY J. GARRIGUES, M. D.,

B. F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex-officio*,

Committee on Publication.

NEW YORK MEDICAL AND SURGICAL SOCIETY.

A STATED meeting was held March 11, 1882, Dr. ALFRED C. POST, Chairman for the evening.

The Secretary read a communication from Dr. AUSTIN FLINT which accompanied and gave an account of an ENTEROLITH. It might be of interest as bearing on the topic discussed at the last meeting. The enterolith had been felt in the right iliac fossa for twenty years. It occasioned at times considerable inconvenience, but the patient was at length carried off by pneumonia. Some account of the case was contained in Dr. Flint's work on the "Principles and Practice of Medicine."

The CHAIRMAN remarked that a person called at his office to-day to be examined as to his physical condition, and, in speaking of his family diseases, mentioned that he had lost a brother who had a constriction of the bowel within six inches of the anus, originating apparently in an attack of dysentery. He said his brother was seventy days without any passage from his bowels. At a very late period lumbar colotomy was performed, and one or two quarts of semi-liquid fæces were discharged, but he was in very bad condition, and died within three days afterward. An enormous amount of solid fæcal matter was found in the bowels, which had been accumulating during that long period.

THE ALBUMINURIA OF PREGNANCY.—Dr. J. W. McLANE related the following cases: The first occurred in a patient twenty-five years of age, pregnant for the second time. During the early months of her first pregnancy, which was five years ago, she suffered only the ordinary discomforts of this state. Her general health was good until the fifth month, when she began to complain of slight pain in the back, and some cephalalgia on waking in the morning. There was some

œdema of the face, with slight swelling of the feet. The urine was found on examination to contain about ten per cent. of albumen, and a few hyaline casts. She was put upon a milk diet, the bowels were kept open with saline laxatives, and, as she was very anæmic, the tincture of the chloride of iron with potassium chlorate was prescribed, with daily exercise out of doors. As the œdema did not increase to any great extent, and the albumen did not at any time exceed fifteen per cent., this plan of treatment was continued until the seventh month, when her pregnancy was terminated quite unexpectedly. She sent for Dr. McLane one afternoon, saying she was in great pain. He found her lying upon the sofa, having given birth, in this position, to a small child, which had evidently been dead for some time, the skin being partly separated from the body. The placenta was small and withered. She made a rapid convalescence, all traces of œdema disappeared in the first week, and ten days after this premature labor the urine drawn from the bladder with a catheter was found normal, without a trace of albumen. — Last year she again became pregnant, and expected to be confined in March. Her history in this pregnancy was not unlike that in the first, in many respects. She was in a much better condition physically than five years ago. Everything went well until about the fifth month, when she again developed slight œdema of the face and feet, and became very anæmic and almost waxy in appearance. The examination of the urine showed albumen to the extent of about twenty per cent., and a few hyaline casts. She was again put upon milk diet, dry cups were applied over the region of the kidneys, the bowels were moved daily by a saline laxative, and the tincture of the chloride of iron was given in ten-drop doses three times a day. The albumen continued to increase slowly but steadily in spite of treatment, yet at no time were there any symptoms premonitory of eclampsia. In fact, but for a slight cephalalgia which she noticed on waking, and which she attributed to not taking so much exercise as usual, she expressed herself as feeling exceptionally well. Her husband noticed at this time that she slept more heavily than usual at night, and snored loudly, a symptom, in Dr. McLane's judgment, of some importance in such cases. When she had reached six months and a half of utero-gestation, the urine was abundant in quantity, highly albuminous, the proportion of albumen one day reaching ninety per cent., of a specific gravity of 1.011, and contained numerous hyaline and granular casts, some pus, and much vaginal epithelium. Although there were no nervous symptoms indicative of danger, Dr. McLane felt so strongly inclined to induce premature labor that he requested Dr. Thomas to see her in consultation, in order to aid him in determining the advisability of this procedure. Dr. Thomas strongly urged him to terminate the pregnancy, as there was little probability of her going on to full term without the development of eclampsia. Labor was induced after the method he usually adopted in such cases; a flexible catheter with a stylet was introduced as far as the os uteri internum; the stylet was then withdrawn, and the catheter pushed up between the membranes and the uterine wall, as far as possible toward the fundus, the remainder of the instrument being coiled up in the vagina. This was done at nine o'clock in the evening. The patient had very little pain during the night, and slept several hours, thirty grains of potassium bromide having been taken at ten o'clock. On the following morning some uterine action had set in, and there was a free flow of mucus, with some cervical expansion. On visiting her again about noon, he found the cervix soft and dilatable, and uterine contraction taking place once in about fifteen minutes. He now ruptured the membranes, stretching the cervix

with the fingers at the same time. Nothing further was done to accelerate labor; the child was born at one o'clock. It weighed two and a half pounds, and survived about three hours. The placenta was easily expelled, and there was no hæmorrhage. Convalescence was uninterrupted; in four days after labor the albumen entirely disappeared from the urine, and no casts could be found. On the tenth day the patient was put upon the tincture of the chloride of iron and potassium chlorate, and on the twenty-first day went out to ride. — The *second* case was that of a lady who had also been pregnant once before, and at that time had some albumen in the urine after the seventh month, the amount never exceeding ten per cent. This disappeared under treatment by laxatives and saline diuretics. She went to full term, and had a natural labor. She became pregnant again in April last, and the urine was regularly examined after the third month. Albuminuria developed at the sixth month, and hyaline casts were found on microscopical examination, and a little renal epithelium. The specific gravity was 1.020, the quantity passed in twenty-four hours being normal. Her temperament was hyperæsthetic, and she exaggerated all her discomforts. She was put upon milk diet, four quarts being taken during the day. During the seventh month she complained of headache in the morning on waking, and of nausea during the day, which she attributed to the milk; of frequent attacks of indigestion, a tendency to constipation, and some blurring of her vision. There was no cedema in any part of the body. She took daily exercise out of doors by riding in her carriage, as she complained of feeling too weak to walk. On the 20th of December she had completed eight months of her pregnancy, and the record of the examination of the urine made that day by Dr. Peabody was as follows: Specific gravity 1.010; reaction acid; albumen abundant, about forty per cent.; very many casts, some hyaline, some nucleated, and not a few distinctly granular. She had by this time lost considerable flesh, and was very nervous and exceedingly irritable. Believing the child to be viable, Dr. McLane determined to induce premature labor, and asked Dr. Thomas to see the patient with him in the evening. About an hour before the time appointed for their meeting, the patient had some pain, and sent for Dr. McLane. On examination he could not discover that uterine action had commenced, but he took the opportunity to stretch the cervix as widely as he could with the finger, and to separate the membranes from the uterine wall as far up as he could reach. The cervix was so dilatable that he decided to rupture the membranes, and applied the binder. Pains commenced almost immediately, and by the time Dr. Thomas arrived labor was in full progress. The patient now began to manifest premonitory symptoms of an eclamptic seizure; she yawned constantly, and was very restless, and there was twitching of the muscles of the face and eyelids. Dr. McLane gave chloroform freely, carrying the anæsthesia to the surgical degree, and kept her fully under the influence of it until the birth of the child. The duration of labor was two hours and a quarter. The patient made a good convalescence, and at the end of a month the urine was free from albumen, though a few hyaline casts were discovered in a specimen examined at the end of six weeks. The child was well developed, and able to continue its extra-uterine existence. — The *third* case was that of a primipara, who developed albuminuria in the sixth month. She was of very small stature, and her pelvis, though symmetrical, was quite narrow, and Dr. McLane had intended to induce labor at eight months and a half on this account. While riding one day in the Central Park she took cold, and on the following day complained of headache,

pain in the back, nausea, and loss of appetite. On examining the urine it was found scanty, high-colored, of a specific gravity of 1.028, loaded with albumen and containing hyaline casts. She was put to bed, dry cups were applied over the kidneys, the bowels were freely moved by citrate of magnesium, infusion of digitalis with potassium citrate was administered every six hours, and milk diet was ordered. Under this treatment the urine became more abundant, the headache and nausea disappeared, and at the end of a fortnight she was again able to go out. All medicine was then stopped, but she was kept on milk diet. When she had completed the eighth month of pregnancy the albumen increased considerably in quantity, and there were many hyaline casts, but none granular. The specific gravity of the urine, however, had been steadily growing lower, until it had now reached 1.004. She had some headache, no nausea, no œdema, and her general condition was excellent. Dr. McLane now decided to induce premature labor. The catheter was introduced, as in the first case, at 9.30 A. M., and her labor terminated in sixteen hours. Chloroform was freely administered in the second stage. The child weighed four pounds and a half, was alive, and was now in good health. Convalescence was rapid, and interrupted by no complication. At the end of the third week but a trace of albumen could be discovered in the urine, and absolutely none at the end of the fourth.

These cases, it seemed to Dr. McLane, were instructive, and presented some points of considerable interest. First, the value of milk diet in the treatment of the albuminuria of pregnancy. In the second case three experiments were made to determine this point. After the patient had lived for a fortnight exclusively upon milk, she got very tired of it, and complained of the rigorous simplicity of her diet. He allowed her for lunch one day a couple of baked apples and some cream. The morning urine contained three per cent. of albumen, the evening specimen over twenty per cent. Not feeling satisfied that this increase was due to the food taken, he again restricted her to milk, and in a few days, when the urine was almost entirely free from albumen, he allowed her to eat some bread and butter at noon; the evening urine was highly albuminous. A third experiment was tried in the same way, with precisely the same result. After the last trial the patient was herself convinced of the necessity of a strict adherence to milk diet. Second. The influence of exercise in the open air in causing a decrease in the amount of albumen in the urine. In the third case related it was noticed that, whenever the weather permitted the patient to walk a mile or more in the fresh air, the exercise was invariably followed by a diminution in the albumen; while if the weather was inclement, or if for any other reason she was kept in the house, as invariably was there an increase. This was just the opposite of what he had observed in albuminuria following scarlet fever, diphtheria, and other debilitating diseases, exercise in such patients uniformly causing an increase in the amount of albumen. Third. As to the propriety of terminating pregnancy in cases such as these, where there were no present symptoms which would indicate the near approach of eclampsia. He was himself a firm advocate of the induction of premature labor, as soon as the child was viable, and contended that this plan of treatment showed better results than that of procrastination advocated by many. The uterus possessed sufficient contractile power to expel the child, the cervix was no more resistant than at full term, while the general system was entirely competent to assume the duties of the puerperal state. As regarded the child born at eight months, its development was of course somewhat imperfect, but this could be compensated for by

special care in rearing it during the next month, and protecting it from cold. He believed it to be a mistake to wait in these cases for the development of cerebral symptoms before inducing labor. It was better to put the patient at once out of danger. During the last month of gestation the child rapidly increased in size, the urine often became scanty and highly albuminous from many undiscovered causes, and an outbreak of convulsions might occur without warning. Every physician had seen such cases. Fourth. In using the catheter to provoke labor it was important to pass it as far as possible toward the fundus of the uterus. If the instrument were inserted only an inch or two into the uterus, no labor pains would be excited, and other means would have to be resorted to. He rarely found it necessary to use the vaginal douche or the dilating bags of Barnes to accelerate labor where uterine catheterization had been properly employed. He usually allowed the instrument to remain in the uterus until the head was ready to pass. Fifth. As to the cause of the albuminuria of pregnancy. The theory of pressure failed to explain either of these cases; there were no signs of pressure. The quantity of urine secreted was normal; the abdominal walls were not rigid, nor was there much oedema of the lower extremities. He believed it was due sometimes to one cause, sometimes to another; and that, while it occasionally originated in hyperæmia of the kidneys following exposure to cold, or occurred in a patient who, prior to pregnancy, was suffering from Bright's disease, it was more frequently dependent on sympathetic irritation by the gravid uterus, similar to the irritation of the breasts, and was observed oftenest in women of high nervous organization, such as his three patients were. He had frequently seen it occur in women during the first, second, and third pregnancies, coming on at about the same time, and attaining to about the same degree of severity. Sixth. The rapid disappearance of the albuminuria after the disturbing cause, the child *in utero*, was removed.

The CHAIRMAN referred to the fact that Dr. Weir Mitchell attached a good deal of importance to a diet consisting of skimmed milk.

Dr. McLANE remarked that he had tried the skimmed-milk diet, but he could not see that any more benefit was derived from it than from pure milk, and he believed that the system required something more for its proper nourishment. The quantity of milk taken by these patients was four quarts a day by measure, a part regularly every hour. He had seen cases like these, but in which symptoms immediately indicative of convulsions were not present, and it was therefore agreed among the physicians to allow the pregnancy to go on until these symptoms did develop, and finally the patients died of convulsions. It took very little sometimes to excite convulsions where this predisposing cause was present. Any exciting cause might bring them on, as, for instance, an attack of indigestion.

Dr. T. F. COCK remarked that we all saw many cases of convulsions, both before, during, and after labor; but the practice of inducing labor without imminent symptoms thereof, as referred to by Dr. McLane, was a rather recent one, and its advisability was a question of great magnitude. He thought an experience of three cases was hardly enough to justify the operation. Moreover, as stated by Dr. McLane himself, a slight irritation might excite puerperal convulsions, and, such being the case, he thought it was rather dangerous to introduce the bougie into the uterus to produce premature labor.

Dr. G. A. PETERS said he had been very much interested in Dr. McLane's remarks, and it had been his opinion for a long time that labor should be induced

as soon as the child became viable under the circumstances mentioned. He had done it at least in two cases—perhaps he might be able to recall more—and with entirely satisfactory results. He did not look upon the procedure as being nearly so hazardous as Dr. Cock seemed to consider it.

Dr. McLANE said he did not base his remarks upon the experience of three cases. These three Dr. Thomas, the President, who was absent on account of sickness, was cognizant of, and desired him to report them. He had induced labor in the neighborhood of thirty times, and in no case in which the child was viable had it perished. In one case labor was induced because the patient was unable to lie down at night. There was a very large accumulation of liquor amnii in the uterus. He had encouraged her to have labor induced, for the reason that in two former confinements at full term she had lost the child; in two others the forceps was used; in another version was performed; and in none had labor lasted less than thirty-two hours, in some over fifty. He therefore promised to bring on labor at the end of two hundred and fifty days, when the child should have become viable; but at the end of the eighth month this enormous accumulation of fluid developed, so that she was unable to lie down, and labor was induced a little short of two hundred and fifty days. The catheter was introduced into the uterus in the evening; the next morning at ten o'clock the membranes were ruptured, and a child weighing seven pounds was born twenty minutes later. It lived, and was the healthiest child she had.

Dr. H. F. WALKER remarked that he had induced labor several times for the reason mentioned by Dr. McLane, and had seen it done a number of times by Dr. Thomas. When uræmic convulsions were anticipated, and no treatment prevented a continued increase in the amount of albumen in the urine, Dr. Thomas was accustomed to induce labor at the commencement of the ninth month. His previous treatment, which was that which Dr. Walker had employed, was as follows: Milk diet, as mentioned by Dr. McLane; great care with reference to the clothing of the patient's body, and that she should not be exposed to great changes of temperature; care to keep the bowels open by saline laxatives; the use of the hot bath at night, just as the patient was going to bed, the temperature of the bath being 100° F., continued for fifteen or twenty minutes, the sweating thus induced kept up by blankets. Usually at bed-time he gave a dose of twenty grains of bromide of potassium for the purpose of quieting the nervous system, and also to act as a diuretic. To increase diuresis he used Bethesda water. In illustration of the theory that the albuminuria of pregnancy was not wholly due to pressure, but that it might be due to some nervous cause, he cited the following case: He had had under his care last winter a very frail and nervous little woman, who had been married two years, and was then carrying her first child. She had been under treatment by some specialist in nervous diseases before her pregnancy, and had received the "rest" treatment. She feared the results of pregnancy and labor. Dr. Walker had a record of the examination of the urine, made every week or ten days, up to the 27th of January, 1882, dating from the sixth month of pregnancy. There was no occasion to suspect any trouble, since the urine contained no albumen and no casts, and was of proper specific gravity. He went away from the city for two weeks, and left her in the care of a friend, from whom and the nurse he obtained the rest of the history. She was confined three days before his return. The labor was natural, and demanded no assistance. The nurse said that on the evening after her confinement there was a great pressure upon the bladder, and she drew off a quart

of urine, and in the night, pressure occurring again, she drew off three pints more. The physician in charge noticed puffiness of the features the next day. An examination of the urine drawn off with the catheter then revealed sixty per cent. of albumen. She was delivered on the 3d of February, and on the 27th of January the urine had been examined, and no albumen found. Therefore albuminuria developed between these two dates, and probably after confinement. After the appearance of the albumen the secretion of urine became almost completely checked, but was renewed by the treatment adopted, and within two or three days the patient seemed to be doing well, when suddenly she was seized with symptoms of heart clot, and died immediately, on the 7th of February.

Dr. W. M. POLK, who had arrived too late to hear all of Dr. McLane's remarks, said that his mind was not definitely settled with regard to the indications which would justify the induction of premature labor in these cases. It was pretty well settled that the mere presence of albumen in the urine was not a sufficient indication, even though present in large amount. In a case seen by Dr. Polk, in which the patient had not quite reached the seventh month of pregnancy, and in which there was about eighty per cent. of albumen in the urine, the quantity of urine being about twenty-five ounces in the twenty-four hours, with a good deal of œdema, and, as Dr. Polk thought, some indications of nervous disturbance, the induction of labor was not thought justifiable by the consultant. Dr. Polk, however, believing differently, took upon himself the responsibility of the procedure, and the patient was delivered safely. But this conservatism on the part of the consultant led him to investigate the subject still further. He believed, with Dr. Walker, that the presence of albumen in the urine was not the matter of greatest importance in these cases, for we knew that convulsions occurred sometimes without albumen being present at any time. He also was disposed to believe that the nervous system was in some way implicated, but how, he did not know. He had about concluded that cases in which there was present fifty per cent. of albumen in the urine, with anæmia, a good deal of anasarca, and violent headache, if at all persistent, were proper ones for the induction of premature labor, although the urine might be passed in fair quantity. If, however, the percentage of albumen was not greater than fifty, with the amount of urine normal, and the symptoms mentioned were present, other treatment should first be tried. He had not mentioned the specific gravity of the urine, for the reason that in these cases it was sometimes pretty high, in spite of the fact that convulsions had occurred or were imminent. It was the presence of a group of symptoms, rather than any one in particular, that indicated the propriety of bringing on premature labor. As to a sudden fall in the specific gravity of the urine, he should look upon it with apprehension.

Dr. McLANE again referred to the enhanced dangers after the 250th day of pregnancy in these cases, and said that he had also induced labor in many cases for other causes than threatening puerperal convulsions, among which was pregnancy under the following circumstances: Quite a young patient, with an ill-developed pelvis, with no abdominal muscles worth mentioning, with a large head, and whose husband had a large head. Such women were liable to have difficulty at parturition at full term; the cervix and the perinæum were generally lacerated, and it was probable the forceps would have to be used. He mentioned a case in which three children were lost by allowing pregnancy to go to full term; the fourth one was brought prematurely into the world at the

250th day, and lived. In reply to Dr. Polk's question, as to what he considered proper indications for the induction of labor in a case of albuminuria, he said, a progressive increase in the quantity of albumen, a sudden fall in the specific gravity of the urine, the presence of casts.

Dr. A. B. BALL remarked that in his experience the presence of considerable anasarca in these cases seemed to be, to a certain extent, a safeguard against the occurrence of convulsions; at least he had rarely seen this complication of labor when there had previously been well-marked dropsy. — Dr. McLANE confirmed this observation.

Dr. POLK said that, in referring to anasarca as an unfavorable symptom, he mentioned it as one among a group, not separately. He feared it most, because, when present, if convulsions occurred, there was more likely to be œdema of the lungs.

Dr. McLANE further remarked that he did not believe that in any case in which there was albumen in the urine in any considerable amount, though scarcely another symptom was present, we could be at all certain that convulsions would not occur before delivery at full term. In illustration of this fact, he mentioned the case of a woman whose urine contained less than fifteen per cent. of albumen, and who had no other symptoms of any severity. She went out to a dinner, ate and drank heartily, got up an attack of acute indigestion, went into convulsions, and died after the thirteenth, in a state of coma. After the first convulsion he turned the child, and extracted it alive by the breech, and it was still living. These children, as far as his experience went, always did well, and required no unusual amount of care except during the first weeks, during which pains should be taken to keep them in a room of pretty high and uniform temperature. They also went through the diseases of childhood well. One, still living, had had scarlet fever, measles, diphtheria twice, whooping-cough, chills and fever, and other diseases, and was now as healthy a child as he had ever seen. He pleasantly referred to the late Dr. George T. Elliot's remark, that the time would come when a woman whose confinement was due in August would be delivered prematurely in July, in order to go away for the summer.

The CHAIRMAN related the following cases in illustration of the prophylaxis of threatened puerperal convulsions: One of the cases dated back to a time before the attention of the profession was called to the subject of albuminuria. A multipara, of full habit, who enjoyed good health, sent for him at about the completion of her eighth month, and he found her evidently threatened with convulsions—having considerable congestion of the vessels on the outside of the head, twitching of the muscles of the face, a tendency to coma not fully marked, some thickness and difficulty of speech, and a confusion of ideas. The patient being of full habit, he thought it best to bleed her. When he applied the bandage at the elbow she fainted, and, as he was a young man, and the case was an important one, the late Dr. Delafield was called in consultation. They took away about a quart of blood, when the twitching of the face ceased, her mind became clear, the headache passed off, and she was entirely relieved. About a month afterward she was confined, everything went well, and the mother and son were still living, the latter now a middle-aged man with a family. The second case occurred about fifteen years ago, in a woman who was to be confined soon. Her complexion was very waxy, the face and limbs were œdematous, and the urine was highly albuminous. He ordered some laxatives

and diuretics, but was called to attend her in confinement before his treatment had had time to produce any effect. She was a primipara, about thirty years of age. Her pains came on regularly, with considerable force, and had continued several hours, while the os uteri remained rigid, and the labor seemed to make no progress. She then began to complain of pain between the eyebrows, her mind became somewhat confused, her pulse was small but too firm, and not easily compressible, and, thinking there was imminent danger of convulsions, he bled her to the verge of syncope, until the pulse rose. The pain in the head was relieved, the rigid os became relaxed, the pains became much more efficient, and within a very few hours the labor terminated favorably. The albumen disappeared rapidly from the urine, her convalescence was rapid and perfect, and she had since enjoyed good health. The child lived. He believed that in both cases the blood-letting was of very decided advantage. The beneficial effect was very marked at the time, and there was nothing afterward to indicate any unpleasant effect.

Dr. POLK said he would like the opinion of Dr. Delafield regarding the pathology of some of these cases. There were some cases, like those mentioned by Dr. McLane, in which albumen and other symptoms were present, but in which the patients went on to full term, and were delivered without convulsions, while in some other cases, in which no symptoms of albuminuria were present previous to labor, convulsions developed and carried the patient off.

Dr. FRANCIS DELAFIELD replied that he was afraid post-mortem examinations would not throw much light upon the subject. The fact seemed to be, so far as observation went, that, of those patients who had convulsions and died, a certain number had an old kidney disease which had existed for a long time, in the course of which pregnancy occurred, while others developed a form of nephritis which was of recent origin, which apparently arose during pregnancy, a certain number of which, if the patient did not die in a convulsion, terminated in recovery very soon after delivery. This latter was the form of nephritis which was limited to the epithelial cells of the kidney; there was no change in the interstitial tissue. There were still other cases in which the patients died in convulsions, and in which the kidneys were, so far as we could tell, perfectly normal, containing no lesions at all. The idea which was at one time entertained of congestion of the kidneys had, he believed, been abandoned. From time to time we had opportunity to examine the kidneys of patients who died during the last month of pregnancy, perhaps from suicide or murder. In some of these cases we did not find the kidneys congested, while in others they were congested, it might be from a variety of circumstances, but their congestion had not given rise to any nervous symptoms whatever. But there undoubtedly was a form of nephritis which arose during pregnancy which produced symptoms which sometimes ended shortly after the termination of pregnancy, and which in other instances continued a long time afterward. But it must be evident that the convulsions could not be due simply to the condition of the kidneys, for they sometimes occurred, and resulted in death, when no kidney trouble whatever could be discovered. Of course, the subject was rendered still more obscure by the fact that we had absolutely no certain knowledge why people with ordinary real kidney disease had convulsions. In reply to Dr. McLane's question, whether the third class, those patients in whom no kidney lesion was found, were examples of anasarca, he replied in the negative—that no symptoms were observable until the occurrence of convulsions. Being further asked by Dr. McLane

whether in this class the convulsion was not due to œdema of the brain, he said we did not find œdema of the brain, at least not in all cases.

Dr. McLANE had observed a natural tendency to premature labor in patients with albuminuria, and it had occurred sometimes just previous to the date which he had set for bringing it on artificially. There seemed to be a degradation of the blood which tended to interfere with healthy intra-uterine circulation, and caused the placenta easily to be cast off, whether it occurred naturally, or whether it was induced by the physician. It came away with greater difficulty after abortion for other causes.

Dr. POLK thought that children born prematurely, but after the period of viability, stood less chance of living, and withstanding the diseases of childhood, than those born at full term, and that Dr. McLane's remarks to the contrary were too sanguine.

Dr. COCK looked upon the occurrence of headache, even in slight degree, during the first week after delivery, with a great deal of apprehension, as foreboding convulsions.

Dr. BALL asked Dr. Polk whether he had ever seen uræmic puerperal convulsions in a patient whose urine had contained no albumen previous to the onset of the attack. He asked this question because Dr. Thomas stated that he had invariably noticed an antecedent albuminuria in the cases of uræmic puerperal convulsions occurring in his own private practice. Dr. Ball himself, however, had had two cases in which no albumen was found, although the urine had been examined systematically for a month preceding labor; it was found in abundance afterward. One patient died, the other recovered.

Dr. POLK recalled a case that occurred in Bellevue Hospital in which the urine was examined every two weeks, the last examination being two or three days before the occurrence of convulsions, and no albumen was found. — Dr. COCK recalled a similar case. — Dr. VAN DER POEL had also had such cases.

A STATED meeting was held March 25, 1882, Dr. ALFRED C. POST Chairman for the evening.

PUERPERAL ALBUMINURIA.—Dr. FRANCIS DELAFIELD narrated the following case as connected with the subject of discussion at the last meeting: The patient had been married about a year, and her normal term of pregnancy of two hundred and eighty days should have been completed the 31st of March, 1882. She was well developed, her health had always been good, and was so during the earlier months of her pregnancy. The urine was examined from time to time, and was found to contain nothing abnormal until about the end of February, when a moderate amount of albumen was discovered. This increased from day to day, until it reached perhaps seventy-five per cent. There were also a few casts present. Notwithstanding this, she continued to be pretty well until within a week of the time when she was confined, when she became a little dull and felt stupid; still there was nothing very decided. Matters so continued until Monday, March 20th. Labor then came on, and continued twelve hours, when she was delivered naturally, without the appearance of uræmic symptoms. She did well on the two days following, but the urine was scanty, and continued largely albuminous. On Thursday morning she suddenly had a number of involuntary contractions of the muscles of the face, of the eyes, and of the arms; but the contractions did not fairly reach a general convulsion. She so far lost her sight that she could only distinguish large objects. Unconsciousness, but not coma, succeeded until even-

ing, when she slept until Friday morning, and awoke in her natural mental state. She had no recollection of the previous day. The urine increased in quantity, but still contained a large amount of albumen. Dr. Delafield saw her again Saturday. The sight had also improved, but was not perfect. The increase of pressure in the arteries was exceedingly pronounced, although the heart's action was not very strong. Evidently she was still in a somewhat unnatural mental condition, too much excited, although there were no convulsive movements. Previous to confinement her physician had treated her in the usual way, to avert the danger of convulsions during confinement, but the treatment seemed to have no particular effect in reducing the amount of albumen. She was given milk diet, and tartar emetic and jaborandi had been administered in moderate doses. The urine was kept effectually alkaline. When Dr. Delafield saw her he thought this treatment had been continued about long enough, and advised its discontinuance. The jaborandi had apparently produced no effect, and it was probable that her want of appetite was due to the influence of the tartar emetic.

Dr. J. T. METCALFE remarked that he, and doubtless most other physicians, had seen cases of puerperal convulsions after labor; but he believed that, as a rule, the danger was permanently averted if we were able to carry the patient safely through childbirth. In reply to Dr. Post's question whether, when uræmic convulsions occurred after labor, the prognosis was generally more unfavorable than when they occurred before labor, he said he believed it was.

PERNICIOUS ANÆMIA FOLLOWING PREGNANCY.—This case was also narrated by Dr. DELAFIELD. The woman was a hospital patient who had been confined on the 6th of February, 1882, and entered the hospital on the 22d. On her admission she was delirious, and the previous history had to be obtained from her husband. She was twenty-two years of age, and two years before had given birth to her first child, ever since which time she had complained of dyspnœa on exertion, and occasionally of palpitation of the heart; otherwise she was well. Nothing could be learned about her second confinement, which occurred on the 6th of February last, except that she became delirious, and had remained so up to the time of her admission to the hospital, and that a few days after her confinement her legs became swollen. On admission she was still mildly delirious, and both legs were still somewhat œdematous. She was very anæmic, very feeble, had no appetite, and vomited occasionally; the abdomen was tender on pressure, and she complained of its hurting her. There was no tympanites. A discharge of rather bad odor came from the vagina; the bowels were constipated; the temperature was 103° F. The delirium gradually subsided, and was succeeded by a condition of stupor, in which, however, she answered questions rationally. The bowels remained constipated, but responded to cathartics. The temperature varied between 99° and 103°, and was sometimes higher in the morning, sometimes in the evening. There was a slight cough, with a little muco-purulent expectoration, both of which soon disappeared; but she still lay in bed, vomited once in a while, ate a moderate amount, and grew more and more emaciated and anæmic. He did not think she had peritonitis; possibly there was general tuberculosis, but more likely essential anæmia, for which he treated her. She died March 20th or 21st. At the autopsy, no lesion was found except in the heart. The mitral valve was the seat of endocarditis with vegetation, which, from the history, he supposed might date back some time. The viscera and the whole body were very pale; the blood was thin and watery. He knew not what to call the case, except it were one of essential anæmia. At

any rate, it was exceedingly similar, in every respect, to the number of other cases which had been recorded as occurring after pregnancy, and running such a course.

GREAT TOLERANCE OF OPIUM IN ACUTE PERITONITIS.—Dr. ALONZO CLARK narrated the following case, which he had been seeing during the last ten days with Dr. Chalmers: The patient, a lad ten years old, had been suffering during the past twenty-six days with peritonitis, for which the usual treatment by opium was adopted. Dr. Chalmers began by giving one eighth of a grain of the sulphate of morphia every two hours, but, as this amount produced very little effect, he very soon increased it to a quarter of a grain every two hours, and again to a quarter of a grain every hour, when Dr. Clark was called in consultation. They increased the quantity to half a grain every hour, and, as it still produced no narcotism, but only a little disposition to sleep, the quantity was again increased, and so, little by little, the patient had got up to a grain of the sulphate of morphia every hour and a half. This amount he began taking yesterday afternoon. While he was sleeping a good deal, he was very easily awakened, and during his entire sickness the intellect had been perfectly clear. Naturally, he was an unusually bright boy. He seemed not to have the susceptibility of the average person to the effects of opium. The disease seemed to be held from advancing, yet there was tympanites, with a good deal of pain on pressure over the abdomen. The pupils had been moderately contracted, but at no time extremely so. — Dr. Clark had seen another case to-day in consultation. The physician had adopted the same plan of treating the peritonitis with morphine, but had given only half a grain every three or four hours. The disease had been in progress ten days, in which time one would suppose even this moderate amount of morphine would have exerted some control over it, but apparently it had had little, if any, effect. The dose would now be advanced with a little more rapidity. This patient was aged twenty-two. In reply to a question by Dr. Metcalfe, Dr. Clark said he had not seen very many cases in which patients suffering from peritonitis showed this power of resistance to the effects of morphine. Some years ago he treated a case of puerperal peritonitis in the hospital by opium, and, as the amount at first given produced no narcotism, it was increased and increased, and quite rapidly, too, until she took forty-eight grains of opium every two hours for three days. He inquired particularly into her habits before her admission, and found that she had not been addicted to the use of alcoholics or opium, and was said to be a woman of good habits. The opium was examined by a chemist, and said to be of good quality. The patient was made delirious, but recovered. With regard to the value of the opium treatment in peritonitis, Dr. Chalmers had told him he had not lost a case from this disease in twenty-two years. In reply to a question, he said he rarely saw peritonitis in children which was not due to perforation of the vermiform appendix or some other portion of the bowel. Chronic peritonitis might be due to tubercular deposits. In the boy, the respirations varied in rapidity according to the effect produced by the opium; yesterday they were nine, and the pulse was ninety. It produced no effect on the skin or kidneys. The bowels had not moved for about three weeks.

Dr. DELAFIELD said he had seen some cases this winter which showed plainly a difference in the patient's capacity to bear opium according to whether the peritonitis were general and fully developed, or whether there had been a localized inflammation preceding, and giving rise to the general inflammation.

Two patients had inflammation of the vermiform appendix, which afterward went on to cause general peritonitis. When the inflammation was limited, they could bear opium only in moderate amount; but as it became general they could take the drug in larger and larger quantities, until the amount reached was, as was usual in such cases, three quarters of a grain of morphia every two hours. Both patients got well.

Dr. F. N. OTIS asked whether, in any of these cases in which large doses of opium had been given at short intervals, there had been a sudden development of alarming narcotism.

Dr. CLARK replied in the negative, but said that some years ago a surgeon, not accustomed to this treatment, in the beginning of a particular case increased the dose too rapidly, giving seven grains of the sulphate of morphia between morning and evening, and when Dr. Clark saw the patient he was in a comatose state, from which he did not recover.

Dr. METCALFE remarked that, while he was a student of medicine in Dublin, Dr. Corrigan was in the habit of treating articular rheumatism by opium, giving as much as a grain every hour, and yet he knew not of any unpleasant effect being produced by it. In many cases it was much the best treatment.

Dr. CLARK remarked that the only point about which care need be taken when the opium dose was increased by moderate increments was, to observe when amelioration in the disease took place, for then the tolerance of opium was markedly diminished, and the amount must be decreased. It should not be stopped at once, but gradually. He said Dr. Beck used to tell of a lady who was subject to neuralgia. In order to relieve the pain, she took very large doses of opium, and suffered no ill effects from it; but one evening, believing that the pain was coming on again, she took the usual large dose, and next morning was found dead. It was not known, of course, whether or not the pain would have returned, but Dr. Beck assumed that it would not, and that, therefore, she was overwhelmed by the quantity of opium taken. The case illustrated the tolerance of opium during severe pain of any kind.

FISTULA IN ANO; HÆMORRHOIDS; ULCER OF THE RECTUM.—The case was related by Dr. METCALFE. About eighteen months ago a gentleman consulted him for painful defecation. The fear of pain had prevented him from yielding to the desire to go to the water-closet, and constipation with hæmorrhoids had resulted. On examination under ether, a fissure of the anus was found. This was treated by forcible distension of the sphincter. Specular inspection showed a number of internal, bleeding hæmorrhoids, besides a large, deep ulcer of the rectum, just above the internal sphincter. To this and to the piles pure nitric acid was applied by Dr. Ward, after Dr. Maury's method. There were also observed the external openings of two fistulae, each having its outlet about three inches from the anus, one on the right and the other on the left side. A probe inserted passed up to the neighborhood of the ulcer. At the end of a fortnight the pain during and after stool was entirely relieved. A second application of nitric acid to the ulcer and hæmorrhoids was made, and this effected a permanent cure, not only of those troubles, but also of the fistulae, both of which were obliterated. The patient had been told by Dr. Metcalfe that the fistulous tracts would need to be opened by the knife before permanent cure could be looked for. The result obtained by curing the ulcer was as unexpected by the doctor as it was gratifying to the patient.

INCOMPLETE INTERNAL ANAL FISTULA IN A CHILD TWO YEARS OF AGE.—The

CHAIRMAN said that two or three days ago he was called to see a child, about two years of age, who for a year past had had some irritation about the rectum. It proved to be an incomplete internal fistula. He had never seen an example of anal fistula in so young a subject before, and asked if any of the members of the society had had such a case. Dr. Sands replied that he had not.

ENCYSTED VESICAL CALCULUS; DIFFICULTY IN DIAGNOSIS. — The case was narrated by Dr. OTIS. At his clinic, March 2, 1882, Dr. Williams, of Scranton, Pa., handed him a note, which stated that he suspected the case might prove to be one of encysted stone in the bladder. Other surgeons had made examinations, but had failed to find the stone, although the symptoms pointed plainly to this trouble. He had undergone all sorts of treatment without being benefited. Lately, in the midst of urination something appeared to drop over the internal meatus, and cut off the stream. He was compelled to urinate every few minutes, and had to give up all business. A hasty examination at the clinic revealed nothing wrong with the bladder. At a subsequent examination at his office he resorted to every ordinary, and some extraordinary, methods for discovering concealed stone, but without success, and had about concluded that the symptoms were produced by a polypoid growth within the bladder. On two occasions during the examination he got a very faint impression of having struck a stone, but could not afterward verify it. He concluded to operate, and on March 10th performed the median operation. Passing his finger into the bladder, he was unable, by a most careful examination, to discover anything which would account for the patient's trouble. His associate, Dr. Bangs, as well as Dr. Williams, who was present and assisting, also failed to discover anything abnormal. Not wishing to lose any possible chance of finding the cause of the trouble and giving the patient relief, he again introduced his finger, and, by an urgent effort, reaching perhaps a quarter of an inch higher than before, this time felt an elevation on the wall of the bladder, which was sufficient to excite suspicion of a small tumor. With the narrow-bladed forceps introduced to this point, and with a grasp of about half an inch, he thought he seized something smooth, soft, but resisting, twisted it completely round, then withdrew the forceps and passed in the finger of the left hand to withdraw the object, but found nothing. With the finger of the right hand, passed a little farther, he touched a soft foreign body, which he was enabled to withdraw from its pocket with the forceps. It proved to be an oval stone $\frac{3}{4}$ inch in length, $\frac{1}{2}$ inch in width, $\frac{3}{8}$ inch in thickness. Apparently $\frac{1}{4}$ of an inch only had been uncovered at the apex, the rest having evidently been encysted. A distinct line marked the exposed portion, which was smooth, while the remainder was rough. The stone was apparently of a mixed character. On recovering from the effects of the ether the patient expressed himself as quite free from pain; he passed a quiet night, his urine passing through a soft catheter which had been introduced into the bladder through the perineal incision and tied in immediately after the operation. There was not at any time either rise of pulse or increase of temperature. On the third day the catheter was removed; on the fourth a part of the urine passed through the penis. Up to March 15th the urethra, which easily permitted a No. 26 staff to pass through it into the bladder at the time of operation, had not been critically examined. To ascertain if any obstruction which would interfere with the prompt healing of the perineal opening was present, the urethra was now examined with the urethrometer as far as the bulb. It proved to have an easy capacity of 34+ throughout, with the exception of a contraction at the orifice, and extending back for $\frac{1}{2}$ inch, of

8 mm. This was divided, and a 34+ solid sound was passed without the least force through the entire urethra and well into the bladder. Sunday, March 19th, the patient called at Dr. Otis's office, and a No. 33 sound was passed easily through the urethra and well into the bladder. The next day the external wound was almost completely healed, the patient passing urine free from pus, once in five or six hours. He left for home that morning, apparently well in every respect—a little less than ten days from the date of operation. On exploring the bladder in this case, Dr. Otis felt that if he had had a finger about half an inch longer it would have been of great advantage, and afterward, when thinking of this, he took a piece of wire, doubled it, and wound it round his index finger, allowing the oval bent end to project beyond the tip of the finger a suitable distance to sweep over the most distant part of the bladder. In reply to a question by Dr. Sands, he said he supposed the cyst which contained the stone was somewhat pendulous, and that, at a certain time during urination, the contraction of the bladder forced it upon the meatus, thus obstructing the flow. After the removal of the stone the relief was complete, and the man urinated only once in five or six hours. He had also suffered from obstinate constipation and pain about the rectum, the latter of which symptoms troubled him so much that he was in the habit of seeking relief by sitting on a heated board. The second day after the operation the bowels had become perfectly regular, and this pain had entirely disappeared.

A STATED meeting was held April 8, 1882, Dr. THOMAS F. COCK Chairman for the evening.

TREATMENT OF DERMATO-CELLULITIS BY THE ACTUAL CAUTERY.—Dr. A. C. POST related the case of a woman both of whose hands were burned several months ago. She recovered from the effects of the burn, except that there remained some cicatricial contraction, which at some future time would require treatment. But she had been attacked, without any obvious cause, by inflammation in the skin and cellular tissue of one of the extremities, causing a large brawny swelling, including a large part of the forearm and hand. It had existed for about a week, and was likely either to become chronic or to result in extensive destruction of skin and cellular tissue. From former experience he was led to believe that the inflammation might be arrested by the actual cautery, and he therefore had the patient etherized, and applied the Paquelin cautery over the surface of the forearm and hand, at the inflamed part, to the extent of thirty-nine points, leaving intervals of from two to three centimetres, and penetrating through the skin into the cellular tissue. The parts were dressed in a saturated solution of bicarbonate of sodium. She was then entirely free from pain, and from that time on there was not a moment in which she felt the pain of the burns. A very rapid subsidence of the inflammatory swelling took place, and in the course of about three weeks it had almost entirely subsided. The case was interesting from the fact that, the application having been made under ether, the patient suffered no pain whatever, either at the time of the operation or during the subsequent progress of the case. Three or four days ago he was called in consultation to see a man who was suffering from deep-seated inflammation in the lumbar region, over the quadratus lumborum on one side, and extending beyond its bounds. There had also been some inflammatory symptoms about the groin. Before Dr. Post saw him the patient had been blistered over the groin, with partial relief. Dr. Post applied the Paquelin cautery at eighteen

different points, making six rows of three points each, extending into the cellular tissue. This was done two or three days ago. The wound was dressed in the same way as in the other case, and, while it was too soon to speak of results, yet, so far as pain was concerned, he felt none at the time of the operation or since. During the past year he had made similar applications in four or five cases, with the same results as to absence of pain, and in all, excepting the last, in which sufficient time had not elapsed to judge, very marked and rapid improvement had taken place. The amount of discharge through the small perforations made with the cautery was very slight, and scarcely soiled the dressing. In reply to a question by Dr. Ball, he said he attributed the absence of pain largely to the application of bicarbonate of sodium. He said that a week ago he was at the Woman's Hospital, attending an operation by Dr. Thomas, at which he removed a large part of the vulva for cancerous disease. He suggested to Dr. Thomas application of bicarbonate of sodium, which Dr. Thomas had not been in the habit of using. In this case the effect was almost magical; no pain whatever followed the application, and the wound healed. Dr. Post considered the effect of the Paquelin cautery in relieving cellular inflammation marvelous. It did not cause so much distress as a blister, and was far more efficient.

LUMBAR COLOTOMY.—Dr. Post alluded to a case of this kind, in which he operated at the Presbyterian Hospital, last week, and violated the rule laid down by Mr. Pollock, in his article in Holmes's "Surgery," with reference to the treatment of malignant stricture of the rectum, recommending that colotomy be not performed until the obstruction became complete. This, it seemed to Dr. Post, was a very unwise rule. If we waited until there ceased to be any evacuation of the bowel, the intestine had become distended, and faecal vomiting had occurred, it was a very difficult matter, after making an artificial opening, to get rid of these large accumulations, and the result as to saving the life of the patient was very doubtful. He could see no good reason why, when the disease was sufficiently advanced to show its character distinctly, and to interfere with the free and regular evacuation of the bowels, knowing the tendency in the end to produce complete obstruction, we should not at once give the patient the relief afforded by an operation. The patient on whom he operated on Tuesday last was about fifty years of age. His health had not been very much impaired, as he was able just before to walk to his clinic. The statement which he gave was, that during the last seven or eight months he had had no figured or solid evacuation, but generally every day he had ten or twelve small watery stools, containing portions of broken-down faecal matter. On introducing his finger into the rectum, Dr. Post found, at about a finger's length from the anus, an indurated annular stricture, which was so high up that its outlines could not be very distinctly felt with the finger. Behind the stricture, between it and the sacrum, was a sort of pouch, into which the finger would pass as far as he could reach with it, but it could not be passed through the stricture, which was high up. A flexible English catheter, about a No. 10 or 12, could be passed through the stricture with a little difficulty, and fluids could be injected through it also, but not in large quantity. He knew not what the obstacle was, but not more than a pint of fluid could be injected into the bowel before it came away. He performed the operation of lumbar colotomy in the usual way, making a satisfactory opening about an inch in length into the descending colon. The mucous membrane was attached to the integument by a number of fine sutures, stronger

sutures being used at the corners. The temperature the first night after the operation was about 99·5° F. It rose afterward as high as 101°, and on one occasion as high as 102·75°, but did not remain so high any length of time. The pulse was not rapid, and the general condition all along was favorable. The patient had no evacuation through either the natural or the artificial opening for the first four days after the operation, during which time he was fed on milk diet. On the fifth day Dr. Post removed a portion of the sutures from the integument, not from the mucous membrane, and supplied their places by India-rubber adhesive plaster. About the eighth day the remainder of the sutures were removed. Union had substantially taken place by first intention. At the lower angle a few drops of pus were discharged, and a drainage-tube was introduced and kept in for twenty-four hours. The patient was now having daily evacuations of consistent fecal matter through the artificial opening, and passed nothing but a little flatus through the natural opening. He was doing well, was more comfortable than before the operation, and would probably be on his feet in a few days. The disease, which was supposed to be malignant, would probably pursue its course, but the patient might live for a considerable time and with much less discomfort than if the operation had not been performed. In connection with this subject, Dr. Post remarked that it was known that severe cases of chronic dysentery were apt to lead to a very serious form of obstruction of the bowels, due to indurated and ulcerated strictures in the rectum. The passage of the feces through these constrictions occasioned the most terrible torture. According to his observation, it did not cause absolute obstruction. He was acquainted with a medical man, he believed from New Hampshire, who had been in the army and contracted dysentery which became chronic, and extensive ulceration occurred. He came under Dr. Post's observation some years ago, perhaps before colotomy had been performed in this city. The rectum was so contracted that it occasioned very great difficulty in evacuating the bowels. By introducing bougies, first as large as were used on the male urethra, then some larger ones, he gave him some relief, but he continued a great sufferer, and, should such a case come under his care again, Dr. Post certainly would suggest colotomy. A similar case occurred in a man who five or six years ago contracted a dysentery which became chronic. The surface of the rectum became extensively ulcerated, and partially contracted. Attempts at dilatation and all sorts of soothing and gently stimulating applications had been made, but without healing the sores or relieving the patient's suffering. He was extremely anxious to be relieved in any way whatever. Dr. Post performed colotomy in his case three years ago. A free discharge took place through the artificial anus for a considerable time, the ulcers healed, and he then dilated the strictures as far as he could; and now about twice a month the patient came to him, and he introduced a bougie about fifty-eight millimetres in circumference. The patient had consistent evacuations through the natural channel, not quite so large as in a normal condition, but they occurred without occasioning any considerable pain or distress. He was hale and hearty, and worked for a living. He wore a pad over the artificial anus, through which nothing now passed, except that during a diarrhoea some liquid feces might escape. Dr. Post had thought of closing it, as there was no necessity for leaving it open any longer. There had been almost entire freedom from irritation about the artificial anus, and there had been no prolapse.

Dr. J. G. CURRIS remarked that it had always seemed to him a fact of

interest that there should not have been persistent leakage through the gastric fistula which existed in the case of Alexis St. Martin.

Dr. Post stated that he saw St. Martin at a meeting of the society at the late Dr. Delafield's many years ago. The articles of food within the stomach could be seen distinctly. The man seemed to suffer no inconvenience from the fistulous opening.

Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY.

No. XIX.

By ANDREW F. CURRIER, M.D.

OBSTETRICS.

1. CALDERINI, G.—Gli istituti e l'insegnamento di ostetricia e di ginecologia in Svizzera, Germania ed Austria. [Appendice.] "Sperimentale," Mar., Apr., 1882.
2. TIEVENOT, A.—Du rôle des muscles utéro-pelviens pendant la grossesse et pendant le travail. "Union Méd.," May 28, 1882.
3. KRÜKENBERG, G.—Die Gangrän der Harnblase bei Retroflexio uteri gravidi. "Arch. f. Gynäk.," xix, 2, 1882.
4. BRADLEY, W. L.—Ante-partum hour-glass contraction of the uterus. "Med. Record," May 27, 1882.
5. PITKIN, L. F.—On the use of ipecacuanha during labor. *Ibid.*, June 3, 1882.
6. STITES, J. A.—Rupturing of membranes during labor. "N. E. Med. Month.," May, 1882.
7. WEIST, J. R.—The dangers of delayed labor and the use of forceps. "Am. Pract.," May, 1882.
8. BREUS, C.—Zur Lehre von den Acardiacis. "Med. Jahrb.," 1882, 1.
9. GUÉNIOT, *et. al.*—Rétrécissements du bassin. [Soc. de Chir., Paris.] "Progr. Méd.," May 27, 1882.
10. KEHRER, F. A.—Ueber ein modificirtes Verfahren beim Kaiserschnitte. "Arch. f. Gynäk.," xix, 2, 1882.
11. GÜICHARD, A.—Opération césarienne suivant le procédé de Porro, chez une malade présentant une cyphose dorsale avec rétrécissement transversal du détroit inférieur et tout le bassin oblique ovalaire, pratiquée le 22 Mai, 1881. "Ann. de Gynéc.," May, 1882.
12. SPAETH, J.—Clinical lecture on Cæsarean section by Porro's method. "Phila. Med. Times," May 6, 1882.
13. BASSET, J.—Post-partum hæmorrhage. "Brit. Med. Jour.," May 6, 1882.
14. EGEE.—Tratamiento de las hemorragias despues del parto. "Gac. Méd. de México," xvii, 6, 1882.
15. BREUS, C.—Zur Therapie der puerperalen Eclampsie. "Arch. f. Gynäk.," xix, 2, 1882.
16. CORSON, H.—Cold treatment of scarlet fever in a puerperal woman. "Med. and Surg. Reporter," May 27, 1882.
17. PAGET, W. S.—Case of extra-uterine gestation; hæmorrhage; death. "Brit. Med. Jour.," May 13, 1882.

18. WELPNER, E., u. ZILLNER, E.—Laparotomie bei Extrauterinschwangerschaft, 2½ Jahre nach dem Tode der ausgetragenen Frucht, mit vollständiger Entfernung des Fruchtsackes und glücklichem Ausgange für die Mutter. "Arch. f. Gynäk.," xix, 2, 1882.
19. BAYER.—Ueber Credé's Verfahren zur Verhütung der Augentzündungen bei Neugeborenen. *Ibid.*
20. HAUSSMAN.—Zur Augentzündung der Neugeborenen. "Centralbl. f. Gynäk.," Apr. 29, 1882.

2. M. Thevenot says, in regard to the rôle of the utero-pelvic muscles during pregnancy and labor: In head presentations the uterus usually descends into the pelvic cavity some weeks before labor with primiparæ, but quite near its commencement with multiparæ. Though generally due to many causes, it may sometimes be attributed to a solitary force. The contractions of the uterus can not make that organ descend; this must be done by a muscular force acting upon it. This force must be that of muscles with one end attached to the organ and the other to the bony or aponeurotic wall of the pelvis. These muscles contract synchronously with the contractions of the uterine muscle, and, in a word, are emanations or expansions from it. The utero-pelvic muscles have two systems of fibers. Those of the first system are continuous with the longitudinal fibers of the uterine body and neck, and are divided into six principal fasciculi. Two of them pass from the anterior face of the uterine body, constituting the round ligaments, and exert a preponderating force in the work alluded to. The four remaining fasciculi emanate from the longitudinal fibers of the isthmus and the neck. The two posterior ones traverse the folds of Douglas, and are inserted into the second sacral vertebra, sometimes passing as high as the fifth or fourth lumbar vertebra. The two anterior ones leave the body of the uterus below the round ligaments, descending on either side of the bladder, to be attached, finally, in the form of the vesico-pubic folds, to the posterior aspect of the pubes. The fibers of the second system are almost independent of the uterine fibers, are highly developed at the end of pregnancy, and are constituted by a transverse subperitoneal layer covering the anterior and posterior aspects of the uterus; they pass thence within the layers of the broad ligaments, and toward the pelvic walls. A portion of these fibers passes anteriorly into each round ligament, forming a superficial

layer. Posteriorly a fasciculus passes on either side to be inserted into the corresponding sacro-iliac symphysis and into the neighboring aponeurotic surfaces. At the end of pregnancy these muscular layers form a sort of girdle, which, from its arrangement, as already described, is well calculated for depressing the fundus uteri. All these fibers have their greatest development at the end of pregnancy, and also their greatest contracting force, which seems to be reserved for a specific purpose. The early engagement of the head in the case of primiparæ is due to the elasticity of the utero-pelvic tissues, and especially to that of the round ligaments. The late engagement with multiparæ is because the uterus is to a greater extent under the contractile influence of extrinsic muscles.

9. At a recent meeting of the *Société de Chirurgie*, of Paris, M. Guéniot began the discussion upon a paper, read by M. Lucas-Championnière at a previous session, on *contractions of the pelvis*. He remarked that the more decided the contraction the worse the prospects from cephalotripsy. Two limits should be made for the operation: one for those who rarely do it, the other for those who are familiar with it. The limit of contraction for the first should be six centimetres, for the second, four centimetres. Even at these limits, the Cæsarean section would sometimes be preferable, or the Porro operation, since Cæsarean sections have not been successful in Paris of late. He thinks that the old Cæsarean operation, somewhat modified and carefully carried out, might give results analogous to those of ovariectomy. — M. Lucas-Championnière approved of the Cæsarean operation as being easier than Porro's, and because it did away with the treatment of a pedicle. The abdominal incision should be as high and as short as possible.

10. Kehrer has a very lengthy paper on a *modified procedure in Cæsarean section*. This operation would not have so dangerous a rival in the method of

Porro were it not for the magnificent series of changes which has been effected by the antiseptic theory. The negative influence of this theory upon the Cæsarean operation is due to the fact that we have not yet learned to close the uterine wound so securely as to prevent the entrance of lochia into the abdominal cavity. Three methods of closing the uterine wound have obtained: 1. Lebas's ("Journal de Médecine," Supplément de l'Année, 1770, p. 177), which is the simple bringing together of the sides with sutures. 2. Pilloris's ("Gazette des Hôpitaux," 1854, p. 148), and E. Martin's ("Monatsschrift für Geburtskunde," Band 23, p. 334), by which the edges of the uterine wound are attached to the corresponding edges of the abdominal wound. 3. Frank's ("Centralblatt für Gynäkologie," 1881, p. 25), by which the round ligaments are united to each other, and to the edges of the abdominal wound, with drainage of the ante-uterine space. [A description of this method will be found in the March number of the journal, p. 302.] In the first-mentioned operation the sutures sometimes fail to hold, perhaps on account of after-pains, or from the involution process, or by reason of lochial infiltration. In the second operation the lochia can, indeed, be kept out of the abdominal cavity, but contraction and involution of the organ may be seriously interfered with, from the position which the uterus is made to assume. Since all these methods are ineffective, it is desirable in this operation: 1. To find a point at which the edges of the uterine wound are least inclined to gape. 2. To discover a reliable method of suturing. 3. To prevent infection, and to carry off the peritoneal transudation and the lochia. To accomplish these ends the author proposes: 1. An horizontal incision at the anterior aspect of the os internum. 2. Double uterine suturing—that is, suturing of the muscular tissue and also of the peritonæum. 3. Precise antiseptic precautions, drainage of the peritoneal cavity, irrigation, and possibly drainage of the genital canal during the puerperal period. The reasons for the first proposition are: 1. There will be less tendency of the uterine wound to gape. 2. Hæmorrhage will be less free, as the placenta is rarely located in this position. 3. The abdominal incision can be shortened by

this operation. 4. The fetal head will commonly be met with at this site, and extraction will be facilitated. 5. Over and under the os internum the peritonæum is connected to the uterus by subserous connective tissue, which is easily separated. As objections to this operation, thus modified, may be urged: 1. The narrowness of the opening and the consequent danger of its forcible enlargement in removing the fœtus. 2. The danger of opening the great venous plexuses at the side of the uterus or near the os internum. 3. The lochia can easily pass into the subserous connective tissue behind the bladder and cause a parametritis. The second proposition has been called for, as already stated, on account of the contractions which accompany involution. The double series of sutures, together with careful antiseptic precautions, will prevent the entrance of lochia into the peritoneal cavity. As to the third proposition, the most stringent antiseptic precautions are evidently necessary. Experience has taught the author that it is better in every Cæsarean section to use several drainage-tubes. It is also well to introduce thoroughly carbolized cotton into the tubes, and get the benefit of capillary attraction upon the peritoneal transudation. One tube should be carried into each side of the vesico-uterine excavation, and a third behind the uterus into Douglas's pouch. A description of two operations by the author follows: one patient recovered, the other did not. Some remarks are also appended as to the indications for the operation.

15. Breus contributes a paper on the *treatment of puerperal eclampsia*. He says that the connection of this disease with a pathological condition of the blood is a fact generally accepted. In the great majority of cases some form of Bright's disease is at the foundation. Frerichs considers the convulsions as uræmic, and as due to an accumulation of excrementitious material in the blood. Rosenstein states that they are due to a changed relationship in the circulation of the brain in connection with hydræmia, and rejects the theory of Traube, which holds œdema and acute anæmia of the brain to be the causes of the coma and of the convulsions. Rosenstein recognizes that Bright's disease may, but does not necessarily, accompany eclampsia. Whichever theory is correct, the existing albuminuria or

cedema demands, in addition to the use of narcotics, and, if necessary, obstetrical interference, proper attention to the anomalous condition of the blood and the existing affection of the kidneys. This would call for strengthening medication and diet, diuretics, drastics, and diaphoretics, as in Bright's disease. Liebermeister uses the very hot bath in Bright's disease, from 38° C. upward, and then wraps the patient in a woolen blanket and leaves him to perspire profusely for a long time. Schröder recommends that eclamptic patients be wrapped in a sheet soaked with water at 18° R., with a woolen covering over it. The author has made use of hot baths in eclampsia, where diaphoresis was indicated, with most satisfactory results. Six cases are narrated where such treatment was followed. In the first the patient was in the ninth month of pregnancy. She was under treatment ten days, and was then discharged cured. Labor came on at the proper time, and a living child was born without mishap. In the second, eclampsia came on at the sixth month. The patient was discharged cured after eleven days. Labor came on in six weeks, a living child was born, and there was no return of the convulsions. In the third, eclampsia occurred during labor, and the result was recovery. In the fourth it occurred at the end of the second stage of labor, resulting in recovery. In the fifth it came during labor, and death followed on the third day. In the sixth it occurred on the twenty-third day of the puerperal period, and resulted in recovery. Chloral hydrate was given *per rectum* in two-grain doses, previous to the hot baths, but the latter were found to be necessary in all cases, the action of the chloral passing away in an hour or two. The water was at a temperature of from 38° to 40° C. at the beginning of the bath, and was gradually raised to from 42° to 45° C. before the end of the half-hour during which it was employed. The patient was then placed in bed, with an abundance of coverings upon her, which were retained two or three hours. Albumen rapidly disappeared from the urine after the baths, sometimes almost entirely.

18. Welponer and Zillner report a case of *laparotomy for extra-uterine pregnancy*, performed two years and a half after the death of the fœtus, which was removed, with complete separation of the membranes and recovery of the

mother. The fœtus and its envelope were presented to the Society of Physicians in Vienna in February, 1880, by Welponer, the laparotomy having been performed by Billroth. Extra-uterine pregnancy was almost uniformly fatal previous to the era of abdominal surgery, the dread of the operation on account of inexperience in this department of surgery being one drawback, and the presence of the placenta being another. The danger of internal hemorrhage is not so great as was formerly supposed, since the placental circulation ceases with the death of the fœtus. Litzmann counsels waiting from five to six months after the death of the fœtus before operating, the placental vessels being then effectually closed. The case forming the basis of the present paper was as follows: The patient was thirty-four years of age. At the age of nineteen she gave birth normally to a living female child, and was not again impregnated for twelve years. In November, 1876, there occurred moderate hemorrhage from the genital organs, and severe hypogastric pains, this condition lasting six weeks. In March, 1877, the previous experience recurred, and fetal movements were felt by the patient. In August, 1877, confinement was expected, but only pains, blood-clots, and possibly a decidua, appeared. The pains lasted seven weeks, evident symptoms of peritonitis being present. This disappeared by degrees, and the menses returned, after a disappearance of eleven months. Extra-uterine pregnancy had been diagnosticated, but, as the abdomen became much enlarged, the patient could not be made to believe that this was the case. She came to Carl Braun, at Vienna, who confirmed the diagnosis previously made, and counseled non-interference. For the two subsequent years her condition varied, the tumor increasing and diminishing, the pain being more or less intense. At length symptoms of collapse came on, and it seemed probable that a cyst had burst spontaneously into the peritoneal cavity. Two years and a half after her previous visit she returned to Vienna, desiring some operation to free her from almost constant pain. The examination made at this time suggested a dermoid cyst. The tumor was not very movable, showed fluctuation at its upper portion, and was firm below. On February 1, 1880, she was operated upon by Professor Bill

roth, and 2,550 cubic centimetres of dark-yellow thick fluid were removed, similar in appearance to that obtained from dermoid cysts. The adhesions of the sac were very firm and difficult to break down. The pedicle, apparently composed of the ovarian ligament, was about four millimetres in thickness, and contained numerous arteries and veins. The right tube was attached to the pedicle at its point of insertion. The uterus was not involved, and the left ovary was normal. The pedicle was tied and dropped, two drainage-tubes were placed in the cavity, and the long incision was closed with twenty-eight sutures. The operation lasted an hour and a half. The sac contained an almost mature fetus. There was considerable suppuration during convalescence, but on the 6th of March the patient was discharged from the hospital, and subsequently became entirely well.

19. Bayer has something to say in regard to *Credé's proposition for the avoidance of eye inflammations in newly born infants*. His experience at the *Hebammeschule* in Stuttgart confirms all that Credé has declared in respect to the value of his method [see an ab-

stract of Credé's paper in the June number of this journal, p. 639]. Not one of the infants so treated in this institution suffered from ophthalmia. In some cases the skin of the eyelids appeared somewhat swollen for twenty-four hours after the nitrate-of-silver solution was applied. The author saw three hundred and sixty-one cases in the year 1881, in not one of which, as already stated, did ophthalmia or keratitis occur. In the ten previous years an average number of nearly four hundred was seen, among which the percentage of ophthalmia varied in different years between one and one tenth per cent. and forty-three per cent. Corneal inflammations have become much less frequent among the newly born since the habit of disinfecting the genital organs during labor has prevailed. From an economical point of view the nitrate-of-silver treatment is also very valuable, since it lessens the necessary time for keeping the mothers of the suffering infants in the institutions. Credé proposes that every midwife be provided with a flask of the two-per-cent. nitrate-of-silver solution and a glass rod, and use it as a matter of routine practice after the child has been born.

GYNÆCOLOGY.

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19. TAIT, L.—Battey's operation. "N. E. Med. Month.," May, 1882.
20. TERRIER, F.—Remarques cliniques sur une première série de 25 ovariectomies. "Rev. de Chir.," May, 1882.
21. BREISKY.—Ueber die Behandlung der Ovarialtumoren. [Verein dtsh. Aerzte in Prag.] "Wien. med. Woch.," Apr. 29, 1882.
22. JOHNEN, B.—Zur Frage der Narkose bei Ovariectomie und Kaiserschnitt. "Centr. bl. f. Chir.," May 20, 1882.

2. Gouguenheim and Sover have collected a series of facts relating to *external vulvar follicular developments*. The subject of follicular vulvitis, with reference to the mucous surface of the vulva, was long since elaborated. It is only recently that that disease has been described with reference to the cutaneous surface. The disease is rare, and, as it simulates the soft chancre, it has been mistaken for that by some investigators. It has been described by Four-nier with great minuteness. The authors of the present paper resolve the subject into four divisions: 1. Simple acute folliculitis. 2. Acne. 3. Syphilitic acne. 4. Chancroidal folliculitis. The first form, acute simple folliculitis, is rare, and appears as a furuncle similar to that which occurs in other regions supplied with hair follicles. The authors have never met the form described by Huguier, though the latter's investigations were made at the Lour-cine Hospital as well as their own. The second form, acne, is also rare, appears in the form of a hard red nodule, varying in size, which is soon surmounted by a small pustule. The pustule gradually dries up, and leaves a more or less pronounced depression. The duration of this eruption is quite long. Bazin and Huguier have observed it upon the labium majus, have noticed its umbilication, and have called it, respectively, varioliform and an exdermoptosis. It is found among arthritic and strumous subjects. The third form, syphilitic acne, may be consecutive to syphilis, and its diagnosis from the other forms of acne is difficult, and sometimes impossible. Occasionally it takes a pseudo-pustular form, and may co-exist with the pustular variety. A number of con-

tiguous follicles may unite, ulcerate, and simulate a simple chancre. Inoculation is the only means of diagnosis. The fourth form, chancroidal folliculitis, has some analogous relations with the acneiform development. It is often coincident with a simple chancre in its vicinity. The conclusions reached from inoculation were: 1. The period of evolution of the chancre is not influenced by the rapidity of inoculation. 2. The simple chancre and the chancroidal folliculitis have the same inoculative force. 3. Inoculation of chancroidal pus upon the hairy regions of the pubes and labia majora is much slower in its action than that which is practiced upon the thigh. In differential diagnosis one must regard: 1. Simple folliculitis. 2. Diathetic folliculitis, including, as varieties, herpetic, arthritic, scrofulous, and syphilitic acne. 3. Chancroidal folliculitis. The first form most frequently runs the course of a furuncle, and in its early stages is likely to be confounded with acne, with abscess, or with a syphilitic papule or folliculitis. The second form, embracing the varieties mentioned, coincides in appearance with the same eruptions appearing on other parts of the body. The third form is to be distinguished from simple acute folliculitis by the rapid progress of the suppuration and ulceration; from acne by a more intense inflammation, by the brief duration of its pustule, by rapidity of ulceration, and involvement of the neighboring follicles. Inoculation is the final test. Of the non-follicular inflammations, herpes and ecthyma sometimes render the diagnosis uncertain. As to the pathological anatomy, the lesion consists in a suppurative inflammation

around and within the glands. The treatment differs in each of the forms. In simple folliculitis emollients and frequent baths should be used, and the lancet will probably be required. In the acneiform variety the internal treatment may consist in the use of alkalies, arsenic, or antiscrofulous and antisyphilitic remedies, joined with baths and proper topical applications. Syphilitic and chancroidal folliculitis require the treatment customary in constitutional syphilis, locally and internally. A solution of nitrate of silver, in the proportion of one to five, has given the authors great satisfaction. In case an abscess should form, iodoform applications are recommended.

4. Dyhrenfurth writes to the "Centralblatt für Gynäkologie" on *secondary suture of the perinæum*. He thinks the question is not completely answered as to the proper treatment for ruptured perinæa which have either not been immediately sutured *post partum*, or, having been sutured, have not thoroughly healed. He finds only two gynæcologists, Fritsch and Holst, in favor of closing the rupture during the puerperium in cases where it is not done immediately after delivery. Holst's proposition is to remove the granulation tissue which has formed, preparatory to closing the rupture; and this is open to the grave objection that sepsis is thereby encouraged. The proposition to operate after involution is completed is open to the objection that patients will frequently undergo a great amount of suffering before they can be induced to submit to the operation, while they are more readily persuaded during the puerperal period. The author determined to test the usefulness of iodoform in such wounds, and gives an account of two cases so treated. In both the rupture extended to, but did not include, the sphincter ani. In both the primary operation was a failure. The secondary operations were done, respectively, on the tenth and seventh days after the removal of the sutures of the primary operation. The wound was first dusted with iodoform, and two deep iron-wire sutures were then passed, the sides of the perinæum being brought together only with sufficient firmness to prevent infiltration of the secretions. The wounds closed at the bottom, but the skin edges did not unite by first intention. The application of nitrate of silver had the desired ef-

fect, and the perinæa were once more restored.

5. Dr. Moore reports a case of *imperforate hymen*. The patient, a girl of seventeen, presented symptoms of a malarial attack, and was treated for that trouble with small doses of cinchonidia. Three days later the doctor was summoned, and found the patient in great pain, of a bearing-down character, which recurred at frequent intervals. Vaginal examination revealed a large tumor, which felt suspiciously like a foetal head. More careful investigation showed that the finger was in contact with a thick and resisting imperforate hymen, through which the examining finger could not be forced. A few hours later the membrane was punctured with a bistoury, and, after the retained fluid had escaped, the opening was enlarged to the full width of the vagina. The after-treatment consisted of carbolyzed injections and rest. Fever continued for several days without any accompanying tenderness of the pelvic organs, which satisfied the author that it was malarial, not sympathetic or inflammatory. The author says that at least a quart of retained menstrual fluid was drawn off.

6. Dr. Mekerttschiantz discusses *the lesser gynæcological operations in general, and the removal of the cervical mucous membrane in particular*. He opens with a compliment to Sims, referring to the revolution in gynæcology, or rather the new era, created by his book on "Uterine Surgery." There is too much anxiety to do gynæcological operations nowadays, and the patients are too often left without sufficient care, and in a condition of real danger, after what have seemed to be simple operations. Recent papers by Engelmann and Clifton E. Wing are quoted as having for their object the restraining of this desire to operate. It bespeaks carelessness on the part of operators that means for anticipating difficulty following an operation are not provided, and hence an apparently trivial operation sometimes leads to grave consequences. The operation should, in each case, be individualized—that is, correspond to the lesion in each particular case. He thinks this plan would result in omitting many of the operations upon the neck of the uterus. This paper was suggested by the operation of Schröder, which consists in removing the cervical mucous membrane and covering the cer-

vix with mucous membrane from the vagina. The author has had a successful case of this kind, and wishes to indicate such cases as he thinks suitable. In cases where there is only a moderate or slight degree of erosion no operation is necessary, as proper local treatment will suffice. On the other hand, in those cases which have long been neglected, where extensive pathological changes have taken place, where new growths have started which are limited to the cervix, and which in addition involve only the mucous and submucous tissue, the operation is indicated. The ectropium which gives opportunity for the pathological changes in the cervical mucous membrane is sometimes natural, according to Fischel. The author thinks that the importance of *some* lacerations of the cervix, and of Emmet's operation, is not overestimated. The patient upon whom he performed Schröder's operation was a woman forty years of age, who had had five children and one miscarriage, complained of the usual pains, had profuse and painful menstruation, and a marked cervical endometritis. Erosion was very pronounced, especially upon the anterior lip. After a long and ineffectual course of local treatment, Schröder's operation was done. It was followed by an attack of parametritis, and the patient was not able to go out until four weeks later. The operation was successful in relieving her dysmenorrhœa and endometritis. The author's conclusions are: 1. Schröder's and other gynæcological operations must be done only after weighing the pathological condition and the consequences of an operation. 2. The cervical mucous membrane can be so irritated by coitus that malignant disease may result. 3. The removal of the cervical mucous membrane is indicated in erosions and all growths limited to its lower surface, when local treatment does not avail, and other operations are not appropriate.

7. *The use and abuse of the uterine sound* is the title of a paper recently read before the Detroit Academy of Medicine by Dr. S. P. Duffield. The author rather tritely remarks that the gynæcological examinations of to-day are essentially the product of this century. Levret first used the uterine sound in 1771 for measuring the length of the uterine cavity in hypertrophy of the cervix. Simpson, Huguier, and Ki-

wisch were the means of bringing it into general use. Bimanual palpation has superseded its use, in a measure. With the greatest wisdom and truth he sounds the alarm, although by no means the first to do it, against the too free use of this valuable aid to diagnosis. Chronic metritis has been caused in many more cases than the one cited by the author by its frequent or unskillful use. Different authors are cited as to its value and its abuse. Its great danger in cases of pregnancy is especially dwelt upon; and, as the signs of pregnancy in the early months are sometimes obscure, it shows how great is the need of caution in probing the uterus in all cases. The methods of procuring criminal abortion are then dwelt upon, being considered under two heads: 1. The use of mechanical means. 2. Irritating medicinal substances acting in proportion as pregnancy advances. Under the first head he refers to some medical practitioners in good standing who had approached patients of his, offering to relieve them of their annoyance. The remainder of the paper is mainly a plea for higher education among medical men, for a keener moral sense, and for broader intellectuality; and its manly tone is quite refreshing.

15. Fränkel and Schuchardt have written on *the theory of the hæmatocystic uterine myomata*. Fibro-cystic tumors of the uterus have excited special anatomical and clinical interest during the past ten years. The differential diagnosis from other abdominal tumors is consequently easier than formerly. Virchow was the first to separate the soft myoma of the uterine wall from the proper cystic myoma. The myxo-myoma he refers to the first of these two classes. As the third class of soft intra-parietal myomata, he describes the variety made up almost wholly of muscular tissue, and, as a sub-variety, the myoma telangiectodes, or cavernosum. As true cysts of the uterine wall, he reckons only the myomata described by him as hæmatocystic, and as a connecting link between the two chief groups—that is, as a cystoid metamorphosis of a tumor previously solid, he reckons those forms of cysts, already described, which have acquired a kind of oedematous softening, and which contain a quantity of fluid material in cavern-like spaces. This latter is nearly colorless, and somewhat like

synovial fluid in appearance. The essential characteristics of these different groups may be more or less mingled in the same specimen. With the present amount of experience it is not possible to distinguish them from one another clinically. This will be possible only when the number of cases, carefully observed upon the living subject and anatomically investigated after removal, is greatly increased. The case which is here described was under observation longer than two years, giving opportunities for many interesting clinical observations. The patient was a virgin thirty-eight years of age, appearing before Dr. Fränkel on account of an abdominal tumor of considerable size. She began to menstruate at fifteen, and always suffered from dysmenorrhœa and menorrhagia. Freund had been consulted in 1871, had diagnosed a tumor of the uterus, and had ordered a series of subcutaneous injections of ergot, which were not very efficacious. She passed through the hands of various gynæcologists before she saw the author, suffering continually from the usual accompaniments of such growths, and at the time in question was in a desperately bad condition from loss of blood, loss of appetite, and consequent general debility. The tumor was very large, the greatest circumference of the abdomen being 138 centimetres, taken at a point 18 centimetres below the navel. The distance from the symphysis to the navel was 40 centimetres, from there to the ensiform cartilage it was 37 centimetres. From the navel to the anterior superior spinous process of the right ilium the distance was 30 centimetres, the corresponding measurement on the left side being 27 centimetres. Besides ascitic fluctuation, the presence of a firm tumor could be felt, of smooth surface and irregular contour. It was thought that fluctuation could be obtained in some portions of the tumor, which was not very movable. The intestines lay behind the growth, to the left and above. The sound passed to a depth of 12·5 centimetres, in a forward direction. The patient was anæsthetized at another interview, and a further examination was made, especially *per rectum*, the gut being entered for a third of the length of the forearm. The tumor still appeared to be fibro-cystic and to have developed, without a pedicle, from the entire posterior uterine wall. The author did

not consider the case favorable for operation, and declined to interfere in that way. The patient lived two years and a quarter after coming under his notice. During the last five months of her life the ascitic fluid was removed by tapping five times, to relieve urgent dyspnœa. Menstruation disappeared during the year 1880, and returned to a moderate degree about three months before her death. The autopsy confirmed the diagnosis made during life.

20. M. Terrier publishes some clinical remarks upon a series of twenty-five cases of *ovariotomy*. These operations constituted the author's first series, and were done at different hospitals in Paris, mostly at the Salpêtrière. The following conclusions are drawn by the author: Ovariotomy is ordinarily practiced on women between twenty and forty years of age—that is, during the sexual period. It can always be done after the menopause, and even to the age of sixty years. Ovarian cysts have little to do with troubles of menstruation, and do not insure sterility, perhaps because they usually affect only one ovary, or because they develop slowly. The evolution of these tumors is sometimes rapid, and interference is indicated as soon as the diagnosis is clear. Morbid phenomena due to the development of a tumor may be wanting, with the exception of the anxiety consequent upon a knowledge of its existence; or there may be great pain, with or without peritonitis. In case of the latter, adhesions are formed. Ascites is an important symptom, especially if considerable. It indicates the existence of polycystic vegetating tumors. A very moderate ascites has no particular importance. Œdema of the limbs and of the abdominal walls is to be expected as a mechanical result. Pulmonary accidents, phlegmasia alba dolens, due to the cystic new formation, are serious but rare accompaniments. Puncture made for evacuating or exploring purposes, with precaution, is without danger. The patients are made more comfortable after tapping, diagnosis and prognosis are rendered more exact by its use, and it is advised in all cases. Operative results vary little in general where great care and antiseptic precautions are observed. The facts are still too few for a decisive opinion as to whether it is better to fix the pedicle in the abdominal wound or drop it into the cavity. Adhesions are the rule, the

most common being those to the abdominal wall, the most serious those in the pelvic cavity. The latter sometimes necessitate an incomplete removal of the tumor. Multilocular cysts are by far the more frequent; dermoid cysts are rare. Cysts anatomically unilocular are exceptional, however common those which appear unilocular clinically may be. The weight of tumors varies between limits widely separated. Twelve per cent. is the author's mortality in the series published. His three deaths were all caused by acute peritonitis, either suppurative or non-suppurative. Ventral hernia is one of the most common accidents following ovariectomy, and may become a serious trouble. Even after double ovariectomy, menstruation may persist for several months.

21. Breisky spoke before the Association of German Physicians in Prague, at the session of April 14, 1882, on *the treatment of ovarian tumors*. Spontaneous degeneration of ovarian tumors is extremely rare. Contraction of the cyst has sometimes occurred after evacuation and injection of iodine. The patient whose case is recorded in this paper was cured spontaneously. She presented herself in 1875, having been married two years, under the supposition that she had been pregnant eight months, as her abdomen had been enlarging during that period. She sought medical advice because her menses had

continued regular, and because she had felt no foetal movements. Examination showed the tumor to be a simple ovarian cyst, but, as this was previous to the time when ovariectomies were successfully done in Prague, the case was put off from time to time, the patient coming to Breisky's clinic once in eight weeks. In 1876 the tumor began to decrease in size. In October of that year its walls were firmer than when first seen, and it was not larger than a child's head at term. In 1878 it was not as large as a fist; its lower part was knobby, its upper part was smooth. In 1880 a course of treatment was taken at Marienbad with good result. The tumor was then no larger than a hen's egg. The menses were sometimes scanty, and sometimes altogether absent. In 1881 they occurred at regular intervals of from twelve to fifteen days, the tumor still decreasing in size. Its gradual contraction shows that it could not have been a cyst which had collapsed. Had it been an adenomatous development, its retrogression would have been quite unlikely. The author records another case where a cystic adenoma of the ovary had been removed, and where inflammatory infiltration had taken place around the ligature, simulating malignant disease. This had undergone absorption. Short accounts of two cases are added where fibromata were removed from the ovaries.

QUARTERLY REPORT ON SURGERY.

No. XI.

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SURGEON TO ST. PAUL'S INFIRMARY FOR DISEASES OF THE RECTUM.

1. LUCAS-CHAMPIONNIÈRE, J.—Contribution à l'étude de l'anesthésie par le chloroforme, etc. "Rev. de Chir.," May, 1882.
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3. WEISS, N., u. MUKLICH, J.—Zur Nervendehnung bei Erkrankungen des Rückenmarkes. "Wien. med. Woch.," Sept. 3, 10, 17, Oct. 8, 22, Nov. 5, 19, Dec. 10, 31, 1881, Jan. 28, Feb. 18, Apr. 1, 1882.
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5. RECLUS, P.—Des douches naso-pharyngiennes dans le traitement de certaines affections des fosses nasales. "Ann. des Mal. de l'Oreille," etc., Mar., 1882.
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7. MOLLIERE, H.—Anévrysme de l'aorte pectorale traité par la galvano-puncture (mono-puncture positive); mort par déchirure interne du sac; étude du mode de formation des caillots. "Lyon Méd.," Apr. 9, 1882.
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13. LIDELL, J. A.—On fractures of the skull restricted to the inner table. "Am. Jour. of the Med. Sci.," Apr., 1882.
14. HALE, L.—Fracture of the clavicle treated with the "back sling." "Med. Ann.," Mar., 1882.
15. BRAUN, H.—Neurektomie des zweiten Astes des Nervus trigeminus nach osteoplastischer Resektion des Jochbeins. "Centralbl. f. Chir.," Apr. 22, 1882.
16. KUSMIN, W.—Ueber Beckenfracturen. "Med. Jahrb.," 1882, 1.
17. MINICH, A.—Sull' embolismo di grasso nelle fratture. "Sperimentale," Mar., Apr., 1882.
18. WÖLFLE, A.—Chirurgische Briefe über Amputationen. "Wien. med. Woch.," May 28, June 11, 25, July 9, 30, Aug. 20, Sept. 10, Oct. 1, 15, 29, Nov. 12, 26, 1881, Feb. 4, 25, 1882.
19. BRYANT, J. D.—Periosteal preservation in amputations of the leg. "Arch. of Med.," June, 1882.
20. STOKES, W.—On the Taliacotian operation. "Dublin Jour. of Med. Sci.," May, 1882.
21. HAWARD, W.—Spleneectomy. [Clin. Soc. of London.] "Brit. Med. Jour.," Apr. 1, 1882.
22. SANDS, H. B.—The question of laparotomy for the relief of acute intestinal obstruction. "Med. Record," Apr. 22, 1882.
23. MARSHALL, J.—Clinical lecture on colectomy. "Lancet," May 6, 13, 1882.
24. BRYANT, T.—Case of excision of a stricture of the descending colon through an incision made for a left lumbar colotomy; with remarks. [Roy. Med. and Chir. Soc., London.] "Brit. Med. Jour.," Apr. 1, 1882.
25. USIGLIO, G.—Resezione del piloro per carcinoma eseguita dal prof. I. Nicolaysen in Cristiania. "Gazz. degli Ospit.," Apr. 12, 1882.
26. PERGAMI, E.—Ernia crurale destra strozzata guarita coll' enteroclisma. *Ibid.*, Mar. 26, 1882.
27. TRUC.—Note sur un cas de hernie inguinale étranglée, avec resection de 63 centimètres d'intestin, suivie de guérison. "Lyon Méd.," June 4, 1882.
28. BODENHAMER, W.—The treatment of hæmorrhoids by the dilatation of the anal sphincters. "Med. Record," May 13, 1882.
29. BENHAM, R. F.—The treatment of hæmorrhoids by "crushing." "Lancet," Apr. 15, 1882.
30. THORNTON, J. K.—Clinical lecture on nephrotomy and nephrectomy. "Med. Times and Gaz.," May 6, 1882.
31. MARIOTTI, E.—La estirpazione del rene o nefrectomia. [Riv. sintet.] "Sperimentale," Feb., Mar., 1882.
32. PETERS, G. A.—Hydronephrosis. "Med. Record," May 6, 1882.
33. THELEN, O.—Nephrolithotomie wegen Anurie. "Centralbl. f. Chir.," Mar. 25, 1882.
34. VOLKMAN, R.—Notiz. betreffend die diagnostische Rectaluntersuchung bei Steinkranken. *Ibid.*, Mar. 18, 1882.
35. HARRISON, R.—On the radical cure of varicocele. "Lancet," Mar. 25, 1882.

1. M. Lucas-Championnière still believes that there is no substitute for *chloroform*, "the use of which is so simple, and in every respect so conve-

nient." He does not think that ether is at all a substitute; and as for the other anesthetics, "their mortality is still greater than that of chloroform."

He believes that most of the accidents which attend upon the use of chloroform are due to the impurity of the article used, and in the means of purification, upon which he dwells at length, he sees an escape from all the dangers of the agent. This purity he states to be easily attainable, and yet not generally attained; and the statement, if true, is very important. The means of testing the quality of the anæsthetic and of purifying it are given by Yvon in the "Journal de Pharmacie et de Chimie," 1882. Sufficient attention has not been given to preserving the drug in a state of purity. Regarding the mortality attending the use of chloroform, the author believes the present statistics to be utterly worthless, being made up of deaths which have resulted from the indiscriminate use of both the good and bad article, and from its proper and improper administration.

21. At a recent meeting of the Clinical Society of London, Mr. Haward read the notes of a case of *splenectomy*. The patient was a woman, aged forty-nine, who for ten months had been aware of the presence of an abdominal tumor, which was gradually increasing in size. When admitted to St. George's Hospital she was in good general condition, did not look anæmic, and showed no other signs of leucocythæmia except the enlargement of the spleen and an increase in the number of white blood corpuscles. The spleen occupied the greater part of the left side of the abdomen, extending from the loin to three inches beyond the median line, and from the ribs to the groin. The tumor was firm, well defined, and moderately movable. It produced no palpitation or dyspnoea, and there had been no hæmorrhages. The temperature, pulse, and respiration were normal, and the urine was natural. An incision was made in the middle line of the abdominal wall, extending from two inches below the ensiform cartilage to within two inches of the pubes. The enlarged spleen at once presented, and was found free from adhesions. In endeavoring to tilt up the lower end of the tumor, a rent occurred at its upper margin, from which free hæmorrhage took place for a moment, but the bleeding was speedily arrested by the pressure of a sponge upon the torn part. The vessels at the pelvis, which were enormously enlarged, were then clamped and ligatured, after which those of the gastro-splenic omen-

tum were secured by passing an aneurism-needle, threaded with silk, through the membrane, and tying it in several separate portions. The connections of the spleen were then severed, and the organ removed without further difficulty. The only hæmorrhage of any consequence was that which occurred from the rent in the spleen. While the wound was being closed, the patient suddenly became profoundly collapsed, but was revived by artificial respiration and the subcutaneous injection of ether. Five hours after the operation, vomiting commenced, and persisted till the patient died, on the evening of the day of the operation. The spleen, both to the naked eye and microscope, presented the appearance of simple hypertrophy. On *post mortem*, no hæmorrhage was found to have occurred after the closure of the wound, but the abdomen contained some thin blood-tinged fluid. With the exception of slight ecchymosis in the immediate neighborhood of the wound, the peritonæum and abdominal viscera showed no signs of injury. — Dr. Stephen Mackenzie proceeded to discuss the question as to whether or not this operation is justifiable in cases of leucocythæmia. He had recently had a case under his own care in which the spleen was greatly enlarged, and the blood contained a great excess of the white corpuscles. After having the chances explained to them, both the patient and his friends decided to have the operation performed, and the case was placed under the charge of Mr. Reeves for that purpose. The operation was postponed, on account of some cedema of the feet, to allow of attempts to improve the general condition, and, meantime, Mr. Collier's tables appeared, giving the results of all the recorded cases in which the spleen had been removed, and showing that, though the spleen had been successfully excised in several cases, in no case had the operation succeeded when it had been done for leucocythæmia. This fact was also stated to the patient, but he still preferred to submit to the operation. Dr. Mackenzie noticed, however, that the cedema of the feet, which had disappeared, had returned, and that there was slight puffiness of one hand; also that, though the state of the blood had improved, the patient's general condition was not so satisfactory, and leucæmic retinitis and retinal hæmorrhages had made their appearance.

Under these circumstances he strongly advised against the operation, believing that it would be immediately fatal.

===== Mr. Reeves said that his reasons for desiring to operate in this case were the youth of the patient, the fact that the disease was not far advanced, and the physical vigor and determined mental condition of the patient and his friends. He had analyzed the tables of Mr. Collier, and had found that most of the patients were much older than this one, and were in a more advanced stage of the disease, so that he was still inclined to give his patient the forlorn hope offered by the operation. He had thought of tying the splenic artery, but shrank from it because he feared that the spleen might necrose and necessitate its removal, thus adding a second severe operation to one which would, no doubt, be difficult, and, under the circumstances, very hazardous. =====

Mr. Lister—the President—thought it most unfortunate that Mr. Haward's case had been fatal. Death had apparently resulted from shock, though ether, and not chloroform, had been used. The case was discouraging, as it was one favorable for the operation, and there had been no hemorrhage. Experiments should, perhaps, be performed on the lower animals to see whether the spleen could live after the ligature of its main artery, and whether leucocythæmia in the lower animals could be cured by extirpation of the spleen.

23. Mr. Marshall has performed an unsuccessful operation for *excision of cancerous stricture of the descending colon*, and has coined the new and very suitable word "colectomy" to designate the operation. The symptoms of which the patient complained were those usual in chronic intestinal obstruction, joined with a rapid emaciation, which seemed to indicate malignant disease, but the seat of the obstruction could not be definitely determined by any of the usual methods. A rectal bougie passed one foot up the bowel without obstruction, and a large injection, administered high up, was retained, and seemed to reach the splenic curvature of the colon. Careful examination of the abdomen under chloroform yielded no information. The abdomen was, therefore, explored through a median incision, and an epithelial mass the size of a hen's egg was discovered fixed to the descending colon, between the

lower end of the kidney and the iliac crest. On account of the immobility of this part of the bowel, it was impossible to draw the tumor out through the median incision, and another was therefore made, three inches long, parallel with the last rib, and an inch and a half above the posterior half of the iliac crest. Thick catgut ligatures were applied temporarily to the colon, one above and one below the growth, and the latter was excised with scissors, together with an inch of the bowel above and below. Above the tumor the intestine was much hypertrophied, but only moderately distended; below, it was empty, and smaller and thinner than natural. Two arteries entering the growth from behind were tied. When the ligature upon the upper segment was removed, there was at first a discharge of semi-fluid, offensive feces. When this had ceased, the part was washed with a solution of the chloride of zinc, and the open end of the bowel was fixed to the peritoneal edge of the wound by a row of deep silk sutures, passing through the serous and muscular, or the muscular coat only, of the bowel, while a superficial circular set of finer catgut sutures was applied through its whole thickness, and through the skin. The end of the lower segment of the bowel was left just projecting from the lower and hinder part of the wound, with the strong catgut suture attached to it. The wound in the median line was closed and dressed antiseptically. A pad of salicylic wool was placed over the lumbar wound, and kept in place by a body bandage. The patient died on the third day. *Autopsy*.—There was diffuse peritonitis starting from the lumbar wound; there was no sign of extravasation of feces, and the union between the intestine and the lumbar wound was tolerably firm. There were secondary cancerous spots in the liver. The diseased mass, which was removed with a piece of the intestine, was about one inch and a quarter long, and so thick as to leave only a channel through it as wide as a No. 8 catheter. Its thickness was uniform all around the gut, and it formed a short cylindrical rather than an annular stricture. [The remainder of Mr. Marshall's article is a valuable *résumé* of this operation—a *résumé* already given in part in this journal, in the Quarterly Report on Surgery, published in May, 1881.] The operations, so far

as he has been able to collect them, are as follows: Reybard, in 1833, excised a tumor, and a part of the colon to which it was attached, by an incision through the abdomen, and the patient survived ten months. The case is described in the "Bull. de l'Acad. de Médecine," vol. ix, 1843-'44. Gussenbauer, of Liege, was next in order of time (1877); Baum, of Dantzic, operated in 1878; Martini, of Hamburg, in 1879; Czerny, of Heidelberg, in 1880; and Bryant in 1881. The records of these cases may be found as follows: Gussenbauer, "Arch. für klinische Chir.," Langenbeck, Bd. xxiii, 1879; also, "Vierteljahrsschrift für die Heilkunde," Bd. i, Prag, 1880 (a second case by the same surgeon). Baum, "Centralblatt für Chir.," 1879, Bd. ii, p. 169. Martini's case is described by Gussenbauer in the "Vierteljahrsschrift," Bd. i, 1880; Czerny's in the "Berliner klin. Woch.," 1880, No. 45; and Bryant's has just been published in the British journals for April, 1882. This makes a total of seven cases, the author omitting one, by Billroth ("Wien. med. Woch.," March 5, 1881), on a man, aged twenty-eight years, fatal from diffuse peritonitis in thirty-six hours. In four the operation may be said to have prolonged life several months, while three were fatal on the ninth day, the third day, and in fifteen hours, respectively. In all seven operations the mode of excising the disease was almost identical. In the four successful cases, however, only one incision was made into the abdominal cavity, while in two of the three unsuccessful ones two such incisions were made, and in the other a very large T-shaped wound was made. As to the mode of completing the operation after the colotomy was accomplished, the seven cases present three differences. In two of the four successful cases, intestinal anastomosis with enterorrhaphy was adopted, while in the others an artificial anus was intentionally left. Again, in two of the three unsuccessful cases, the two ends of the intestine were sewn together and replaced, while in one an artificial anus was left. Hence two cases out of four of enterorrhaphy succeeded, and two out of three of artificial anus, the results, as far as they go, being somewhat in favor of the latter operation, which is certainly attended with less risk.

24. Mr. Bryant has performed a very

successful operation for the *removal of a stricture of the descending colon by excision* through the loin. The patient was a woman aged fifty years; the stricture was of the annular variety, involving about one inch of the bowel, and could not be felt from the rectum. The incision was the usual one in lumbar colotomy on the left side, the diseased portion of the bowel being drawn through the wound and cut out, and the two orifices being sewed to the edge of the wound. This operation is, as Mr. Bryant points out, the first of the kind in England. [It had been previously performed in Germany.] From it he draws several conclusions in its favor, and he particularly recommends that in any case of colotomy for stricture the point of the disease should be found, and that, when applicable, this operation should be added to that of opening the bowel.

34. Volkmann again calls attention to the method, already described by him, of *detecting stone in the bladder in children by conjoined manipulation*. The child should be anesthetized, and the bladder partially full or nearly empty. Two fingers of the left hand should be introduced into the rectum, and pressure should be made with the right over the symphysis. In this way the whole bladder can be brought between the fingers, and a stone can scarcely escape detection. In some cases Volkmann has been deceived as to the size of the stone thus found, but he has now found it possible, in nearly all cases, to bring the stone up with the right hand, and to dislocate it upon the symphysis so completely as to be able to surround it with the fingers and estimate its size very exactly. In this position he could even surround it with an elastic ligature; and though he does not recommend any such procedure for the removal of a stone, he suggests that it might be of value in dealing with tumors of the bladder. The method of examination is applicable in adults only when the abdominal walls are very thin and relaxed.

35. Mr. Harrison's *operation for the radical cure of varicocele* is a very simple one. It consists in exposing the cord by a vertical incision about an inch in length and separating the veins which are most prominently varicose. These are each tied in two places by a catgut ligature. Usually there are three or four large veins which require to be thus dealt with, and, in addition, there

will be observed a number of smaller ones in plexuses or bundles, especially in close proximity with the epididymis, which can not be obliterated in this way, and which are best destroyed by light touches of the thermo-cautery. The operation is done antiseptically, no sutures are introduced, and the wound is left to heal by granulation. The cicatrix which results is of a contractile nature, such as usually follows burns, and gives a feeling of firm-

ness to the parts. Harrison mentions one case under his own care in which the scrotum was completely reproduced after having sloughed off so as to completely uncover the testicles, not, however, as a result of this operation. If anything, the scrotum is now rather more lax than before the accident. This he holds to be no solitary example, and he uses it as an argument against the operations for varicocele which consist in removing a part of the scrotum.

QUARTERLY REPORT ON ORTHOPÆDIC SURGERY AND DISEASES OF THE JOINTS.

No. IX.

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1. DONKIN, M. B.—Note on a case of pseudo-hypertrophic paralysis; recovery "Brit. Med. Jour.," Apr. 15, 1882.
2. GIBNEY, V. P.—A clinical contribution to the diagnosis of Pott's disease of the spine before the stage of deformity. "Boston Med. and Surg. Jour.," Apr. 27, 1882.
3. OWEN, E.—The early detection and treatment of spinal caries. "Brit. Med. Jour.," May 13, 1882.
4. SMITH, E. N.—The treatment of caries of the spine. *Ibid.*
5. PENZOLDT, F.—Ueber die von Brustwirbelcaries ausgehende Oesophagus-perforation und ihre Erkennung. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxvi, 3, 1881.
6. BÖCKEL, E.—De l'évidement du corps des vertèbres. "Gaz. Hebdom.," Mar. 17, 1882.
7. GOLDING-BIRD, C. H.—Remarks on the choice of mechanical treatment in spinal disease, with remarks on after-treatment and prognosis. "Brit. Med. Jour.," May 13, 1882.
8. PANZERI, P.—Il corsetto gessato di Sayre nella spondilite. "Gazz. degli Ospit.," May 10, 14, 17, 1882.
9. GRATTAN, N.—The treatment of spinal curvature by means of the cuirass. "Brit. Med. Jour.," May 13, 1882.
10. ROTH, B.—The treatment of lateral curvature of the spine. *Ibid.*
11. STILLMAN, C. F.—Obliquity of the pelvis and its treatment; or, sacro-lumbar curvature. "Med. Record," April 1, 1882.
12. SMITH, J. G.—Clinical lecture on medullo-arthritis. "Lancet," Dec. 24, 31, 1881.
13. ANDREWS, E.—The fulcrum action of contracted ligaments as an obstacle to the extension treatment of joint diseases. "Rocky Mountain Med. Times," April, 1882.
14. OLLIER.—Du degré de reproduction osseuse dans la reconstitution des articulations nouvelles; néoformation latérale; néoformation longitudinale. "Gaz. Hebdom.," Apr. 21, 1882.
15. ROBERTS, M. J.—Elastic tension therapeutically utilized in adhesive and medicated plasters. "Med. Record," Apr. 1, 1882.
16. OLLIER.—Résection souspériostée du coude datant de quinze ans. "Lyon Méd.," May 14, 1882.
17. LARGER, R.—Contribution à l'étude de la ténosite crépitante et sèche (ou douloureuse) produite par torsion de la main sur l'avant-bras. "Rev. de Chir.," May, 1882.

18. JAMIN, R.—Synovite tuberculeuse des gaines tendineuses. "Progr. Méd.," May 13, 1882.
19. REEVES, H. A.—Remarks on the contraction of the palmar and plantar fasciæ. "Brit. Med. Jour.," Dec. 31, 1881.
20. ADAMS, W.—Dupuytren's contraction of the fingers in women. *Ibid.*, Jan. 21, 1882.
21. KEEN, W. W.—The etiology and pathology of Dupuytren's contraction of the fingers. "Phila. Med. Times," Mar. 11, 1882.
22. BARKER, A. E.—Congenital dislocation of the hip joint. [Path. Soc. of London.] "Lancet," March 11, 1882.
23. OWEN, E.—On a case of suppuration in the hip joint of an infant. *Ibid.*, Apr. 29, 1882.
24. ALLIS, O. H.—What is the best cure in hip-joint disease? "Phila. Med. Times," Apr. 8, 1882.
25. MAYLARD, A. E.—The "double splint" in affections of the hip. "Glasgow Med. Jour.," Mar., 1882.
26. VANDERVEER.—Subcutaneous section of the femur. "Med. Record," Feb. 18, 1882.
27. BRYANT.—Disease of the knee; necrosis of nearly the whole of the shaft of femur; excision, with removal of sequestrum. "Lancet," Jan. 28, 1882.
28. CARVER.—Perforation of popliteal artery after excision of knee joint. "Brit. Med. Jour.," Apr. 8, 1882.
29. VANCE, A. M.—Double osteotomy for cure of genu valgum. [Kentucky State Med. Soc.] "Med. News," Apr. 28, 1882.
30. ROBIN, V.—Note sur un nouvel ostéoclaste: son application à la cure radicale du genu valgum. "Lyon Méd.," Mar. 26, Apr. 2, 1882.
31. BÖCKEL, J.—Nouveaux faits d'ostéotomie. "Rev. de Chir.," June, 1882.
32. POORE, C. T.—A case of cross-legged progression. "Med. Record," July 1, 1882.
33. HARRIS, P. A.—A method of applying constant spring-pressure for the treatment of bow-legs. "Am. Jour. of Obstet.," Apr., 1882.
34. FENGER, C.—Supra-malleolar osteotomy for outward deviation of the foot subsequent to Pott's fracture healed up in a bad position. "Med. News," Apr. 15, 22, 1882.
35. SHAFFER, N. M.—The prognosis and treatment of ankle-joint disease. "Ann. of Anat. and Surg.," May, 1882.
36. NICOLADONI, C.—Pes calcaneus traumaticus. "Wien. med. Woch.," June 10, 1882.
37. FISHER, F. R.—Extension in the treatment of club-foot. "Lancet," Mar. 25, 1882.

1. Donkin's patient exhibited well-marked symptoms of *pseudo-hypertrophic paralysis*. Within four months all symptoms disappeared, and the gait became normal. The only treatment that the patient had was rest, and iron and nux vomica.

12. The author, in a lecture on *medullo-arthritis* and *synovio-arthritis*, first draws attention to the pathological difference between them. He considers that the pink marrow in cancellous bone belongs to the lymph-glandular class of organs, and probably discharges most of the functions of ordinary lymphatic glands, and with them is liable to that peculiar form of inflammation, the "strumous." The inflammatory products are of the same histological type; they show the same sluggishness, and have a like tendency to

undergo the caseous metamorphosis. A strumous gland in the neck has room to swell, and, if it suppurates, its contents perforate the skin, and so are discharged from the system. But it is not so with bone glands. They are bound down inside a bony shell, and the swelling, which is a consequence of the inflammatory process, results in compression and strangulation. If they suppurate, they force an outlet wherever they can most easily. In the ends of the long bones the pus usually perforates the articular cartilage and enters the joint. This is followed by complete destruction of the articular cavity. The other form of strumous arthritic disease is primarily and essentially an affection of the synovial membrane. The synovial tissue is transformed into a pulpy, gelatinous-looking material, infiltrated with

collections of caseous or purulent matter. Frequently it is found infiltrated with tubercles, or at least with globular aggregations which receive that name. This lowly organized, pulpy granulation tissue is endowed with a peculiar tendency to infect, or absorb, or assimilate every form of fibrous tissue which it meets—tendinous structures and cartilage. Finally, it eats through the articular cartilage, and infects the pink marrow in the cancellous bony tissue in the end of the bone. The appearance of the joint differs in these two diseases. In synovio-arthritis there is enormous thickening of the synovial tissue, there is little hyperæmia, there may be but little pain. The joint is pale, smooth, and sometimes glassy; and large, blue, sometimes deeply set, veins course over it. In medullo-arthritis there is slight thickening of the synovial membrane; the cartilage on the ends of the bones is perforated with masses of granulation protruding through the openings. There is great pain "starting"; great lumeness and constitutional symptoms; the joint is not pale, but of an obscure, dingy red; it is usually rather rough and mottled, and is frequently covered with long hairs. Such being the pathological conditions in these two forms of joint disease, he points out the following line of treatment. And first in regard to the medullo-synovial form of disease where rest, counter-irritation, etc., have failed. He thinks that if there be any justification for the treatment of strumous glands in the neck by removal, there is stronger justification for the removal of similarly diseased structure inside of bone. He therefore advocates opening into the condyle if the knee is diseased from its outer aspect, and scooping out the contents of both condyles if they are diseased. He then inserts a drainage-tube and dresses the part according to strict Listerian rules. In one case all the contents of both condyles were removed down to the articular cartilage. For similar disease of the hip joint he advocates the same operation. The point of making the opening is found as follows: One can make out three prominent points about the trochanter major; they are at the anterior superior, posterior inferior, and anterior inferior angles, and they form the angles of an equilateral triangle; the junction of the anterior with the middle third of the base of this angle is the point of entering the bone, as it corre-

sponds with the axis of the femoral neck. Carefully keeping in the center of the neck, a cavity is drilled in the bone with a small gouge or a Volkmann's scraper, until the epiphysis is tapped. The wound is then closed, the object being to obtain an organized clot within the cavity left in the neck and head of the bone. The author recommends this treatment of the early stages of morbus coxæ and allied diseases, not as a substitute for the milder measures of rest, counter-irritation, etc., but as a possible preventive of the necessity of excision or amputation.

13. The following abstract of a paper on the *fulcrum action of contracted ligaments as an obstacle to the extension treatment of joint disease* is made with regret that the whole paper can not be reprinted. The author mentions the fact that in certain cases of hip- or knee-joint disease extension does not produce the customary relief, but, instead, aggravates the pain and increases the inflammation. Simple non-rheumatic inflammations of the joints are always benefited by extension, if made in the right direction. An inflamed knee is usually instinctively flexed by the patient, because he thus shifts the pressure of the tibia to a new and less inflamed part of the condyles, and relieves some of the pain. By constant adherence to this position, the posterior parts of the inflamed capsular ligament undergo shortening, and the relaxed flexor muscles become contracted, so that it is often impossible to straighten the limb. If, now, the surgeon applies a weight and pulley, or any other mode of extension, he produces great pain, and seriously aggravates the inflammation. This is due to the fact that the muscles going to form the hamstring tendons and the gastrocnemii are shortened, and, on the application of an extending force to the leg, the attachments of the muscles become a sort of fixed point or fulcrum, and the effort at extension, instead of diminishing the pressure of the joint surfaces on each other, actually does the opposite. In order to apply extension to such a knee it must be made in a line with the axis of the leg as flexed, and not in the line of the long axis of the body. To accomplish this, the bent knee may be placed over a double-inclined plane, or even a pyramid of cushions, and then extension be applied in the direction of the long axis of the tibia, the line being changed until the knee

becomes straight. He also advocates a splint made of brass, concave, and hammered to fit the posterior half of the limb from the nates to the ankle. The splint is completed in front of the thigh by two pieces of leather, which are laced up; extension is then applied to the leg by means of elastic webbing fastened to the ends of the adhesive plaster, passed over simple friction rollers at the lower end of the splint, on either side, and fastened to knobs placed above on the side of the splint. In the hip joint the fulcrum action of contracted muscles and ligaments is a little more complex than in the knee. In a large portion of cases of hip disease the thigh is both flexed and adducted. In adduction, the contracted adductor muscles become the fulcrum, assisted by the shortened internal part of the capsular ligament. It is obvious that any attempt to abduct the limb will be resisted by the fulcrum of the adductor muscles, and will simply result in prying the head of the bone with greater violence into the inflamed acetabulum. When the affected thigh is flexed on the pelvis long enough to produce contraction, the vicious fulcrum consists of the great anterior ligament of the hip joint (the Y), aided by the psoas and iliacus, and the tensor vaginae femoris muscle. In attempting to extend the limb, if these parts have become rigid, they constitute a fulcrum, and any attempt to bring down the limb only pries the head of the femur forcibly into the socket. If the flexion is not accompanied with adduction, bed extension can still be made over a double-inclined plane. Generally, if the case does not admit of bed extension, he applies a splint at once, capable of drawing painlessly in any direction. [Taylor has drawn attention to the same method of overcoming flexion.]

22. Mr. Barker exhibited a specimen from a child one month old, who had had *congenital dislocation of the hip*. The patient had an acute abscess in the buttocks, and another at the ankle joint, and died the same day that the abscess was opened. On post-mortem examination there were found around the trochanter major the remains of an abscess communicating with the joint. The capsule of the joint was of three times its usual size, and quite loose; the acetabulum was shallow, misshapen, and lined with soft tissue, not cartilage; the head of the femur was represented by a

small nodule covered with cartilage; at the root of the trochanter the bone was curved outward. The interior of the capsule was congested, but there was no appearance of granulation or ulceration; there was a failure of firm union of the three parts of the pelvic bone in the acetabulum. The author concludes that this was a case of congenital dislocation of the joint, with an accidental abscess outside the joint, which afterward opened into that cavity. The ligamentum teres was absent. The acetabulum had a triangular form.

23. Mr. Owen reports the following case of *acute suppuration of the hip joint in an infant* seven months old. A week before coming under observation the child had chicken-pox, and during the progress of that disease it was noticed that, whenever the baby was moved or the left foot touched, she screamed and was evidently in distress. The mother happened to notice a swelling at the upper part of the left thigh, and the child was brought to the hospital. The thigh was firmly and rigidly flexed upon the abdomen; to attempt to rotate it was greatly to increase the child's distress. The skin about the tender part was neither red nor heated, but there was marked fullness in the gluteal region. The diagnosis was acute effusion into the left hip joint. The feet and legs were bandaged together, and a carminative mixture was ordered. On the third day the patient seemed a little better. Four days later there was no improvement. The attempt to bring down the thigh gave intense pain, and was accompanied by the characteristic arching of the loins. The child was placed under chloroform, and an opening was made in the direction of the articulation. Much pus was voided, and the abscess cavity was thoroughly washed out with water colored with tincture of iodine. After this operation the limb came down straight. The child made a good recovery. The author thinks that there are four points deserving special consideration: First, what was the cause of the rigid flexion of the thigh? The others are: How, when, and where should the surgeon open a hip joint that is the seat of acute suppuration? As to the first, he considers the rigid flexion of the thigh due to effusion into the synovial membrane. Secondly, How should a hip-joint abscess be opened? Not antiseptically, if attention be given to the following indications:

That the opening into the abscess be free; that adequate drainage be insured; that the cavity be kept washed out clean; that the limb be maintained at rest, and that at the earliest moment the surrounding tissues be subjected to "soothing surgical pressure." Next, When should a hip-joint abscess be opened? He thinks "as soon as the presence of pus is diagnosticated." And, lastly, Where should it be opened? "Through the line of least resistance," and, from the frequency with which Nature opens such an abscess near to the front of the great trochanter, he suggests that the surgeon should work down, inward, and backward, in front of the tensor fasciæ femoris, and reach the swollen capsule in front of the anterior borders of the middle and small gluteal muscles.

24. Dr. Allis makes some practical remarks in answer to the question, *What is the best cure in hip-joint disease?* An eminent surgeon has said that nine tenths of the cases can be perfectly cured if taken in time. Granting this to be true, it is clinical experience that nine tenths of the cases are not brought to us in the early stage. He divides every grade of the disease under two heads. In the first, or milder form, the manifestations are not such as to occasion alarm on the part of the patient or friends. There is slight lameness present, and active sports, exercise, and vocation are precluded; finally, after months, the patient seeming to get neither better nor worse, the hip presents every evidence of recovery from hip-joint disease, but with *fixation of the joint*. In the second, or severer type, he includes all cases coming under observation with unmistakable evidence of high destructive inflammation. The disease requires the most judicious surgical care to arrest it. Slowly but steadily the symptoms subside, health returns, and every evidence of local disturbance disappears, when an examination of the joint shows *fixation*. Fixation he believes to be Nature's best cure, and the question he asks is: "*Can cases that have passed through the inflammatory stage of hip disease, in which the disease has been arrested and a cure established through fixation, be further redeemed, and a movable joint established?*" Clinical teaching answers in the affirmative. His own experience is in the negative. He reports three cases in which he attempted to redeem the hip when Nature had cured

by fixation; two resulted in death, and the third patient escaped, but not until he had been dragged to the verge of the grave by established surgical practice. In a discussion that followed, Dr. Barton entirely indorsed the position taken by the writer. Dr. Willard reported three cases in which violent and destructive inflammation had been awakened in long quiescent joints—in one case by an accident, in another by excessive dancing, in another by the surgeon's manipulation. Should the ankylosed position be one unfavorable for locomotion, he would practice osteotomy rather than run the risk of exciting destructive inflammation in a region where the tissues were unhealthy, and where there was really no sound joint structure remaining.

25. In a paper upon the use of the "*double splint*" in affections of the hip, Mr. Maylard points out the reasons why extension with a weight and pulley, and the long unilateral splint, fail to keep the joint at rest and permit of adduction and rotation, and sums up his criticisms as follows: 1. The patient is not prevented from moving. 2. Any movement of the patient for dressing or nursing purposes almost certainly involves movement of the joint, and not unfrequently causes pain. 3. There is a want of parallelism in the lower limbs, the affected side being caused to assume an abducted position with outward rotation. 4. Extension is not always persistent, and, when it is so, has to be produced by unavoidable pressure upon the joint, which may prove painful to the patient, and, from its position, inconvenient in cases of discharging sinuses. 5. Pressure upon the trochanter by the unbracketed side splint causes abduction of the limb, and, the head of the bone being driven into its socket, the inflamed surfaces are brought into contact, and movement which is permitted proves more deleterious. 6. The abdominal and thoracic band employed to fix the splint above, when tight, tends, in the absence of a bracket, to lever out the limb, and, when loose, as it frequently gets, permits the patient to flex the trunk upon the thigh. The splint which is advocated is similar to that used by Mr. Bryant ("Lancet," Jan. 31, 1880), and consists of two wooden pieces—one corresponding to the leg and thigh, extending to a point just below the trochanter minor, the other from just above the joint up on

the ribs. These two pieces are united by two iron brackets bent outward so as to leave a free space opposite the joint. Each limb is provided with one of these splints. Below the feet they are united by an iron bar with a thumb-screw, so as to diminish or increase the interval between them. On each leg-splint is a foot-piece running in a groove and fixed with a thumb-screw, or arranged with a rubber extension band. There is a broad band of heavy cloth passing under the back and fastened to the upper part of both splints, then over the abdomen, and fastened. By these arrangements the limbs are kept parallel, rotation inward or outward and motion at the hip joint are prevented, while extension can be applied by means of the rubber attachment mentioned above. The author sums up the advantages of such a splint as follows: The assurance of freedom from pain to the patient. The convenience obtained for dressing and nursing purposes. The perfect position of the limb. The increased rapidity of repair from impossible mobility of the joint, and the local and constitutional measures thereby permitted.

26. The following case of *subcutaneous section of the femur* has been reported by Dr. Vanderveer. The patient, a girl of nineteen, had extreme adduction of the thigh as the result of inflammation and ankylosis of the hip joint following traumatism. Subcutaneous section of the neck of the femur was decided upon. After a partial section the saw broke, and the wound had to be enlarged so as to remove the fragment. The rest of the section was made with a metacarpal saw. The tendons of the adductor muscles were divided. The wound was treated antiseptically. No complication occurred. One hundred and seventeen days after the operation the patient could lie naturally upon the bed, and walk with a cane, and could bend forward. [In this case there evidently was some motion at the point of section. Whether it will persist, time alone must determine. Up to the present time, so far as our knowledge extends, in no case has motion been retained; although there has been some movement at the point of section for a time in a few cases, but eventually it has been lost.]

27. Mr. Bryant's case of *excision of the knee joint* is of interest on account of the amount of disease and the

age of the patient. A child, two and a quarter years of age, came under observation with the right knee joint swollen and disorganized. There were several sinuses, and one open abscess at the back of the knee, from which there was a good deal of discharge. The patient was placed under chloroform, an incision was made over the knee joint below the patella, and about two thirds of the condyles of the femur were sawn off. Then a sequestrum was removed from the lower end of the medullary cavity. A cavity was then found, three inches in length, filled with caseous, purulent material. At the other end of the cavity there was found another sequestrum, and there were three or four more at the back of the cavity. The lower end was enlarged by notching backward to remove these sequestra, and to allow of free drainage. The cavity was washed out with iodine and water, the wound closed, and, a free communication having been proved to exist through the old opening at the back of the knee, a drainage-tube was inserted that way. The patient made a good recovery.

28. Mr. Carver reports a case of *perforation of the popliteal artery after excision of the knee joint*. - The patient was a girl, aged seventeen years. She suffered from chronic synovitis of the left knee, with a history of phthisis, old keratitis, and disease of the left elbow joint. A month after excision of the knee joint, sudden hemorrhage occurred, four times in two days. Amputation was deemed necessary, and after this it was found that the popliteal artery was ulcerated through by contact with a rough point of bone in a carious state. The patient made a good recovery in a month.

30. M. Robin has devised a *new osteoclast for the radical cure of genu valgum*. It consists of an iron case extending half way around the thigh on its anterior aspect, from a point a short distance above the condyles of the femur upward to the superior third of the thigh; two steel collars bind this to a piece of heavy plank, one at its lower, the other at its upper limit; each collar is fastened to the plank by a nut and screw. This portion of the apparatus holds the femur secure. To the upper or superior portion of the lower collar an upright is securely fastened, having a slot at its upper end, at right angles to the collar and parallel to the long axis of the

limb. Into this slot is fitted the end of a long lever, which extends down over the leg. A strong leather collar, large enough to surround the femur at the condyles and pass over the lever above, completes the apparatus. It will be evident that the lever will act, when pulled upward, as one of the second order, where the weight is between the fulcrum and the power. The object aimed at in the use of this osteoclast is to cause a transverse fracture, either complete or incomplete, just above the epiphysal line of the femur in the direction from behind forward, or rather from within outward and upward. The following is the method of using it: The patient being etherized, the thigh is placed on the wooden frame, the iron splint or case is placed over the thigh and securely fastened to it by the steel collars; the leather band is placed around the lower end of the thigh, so as to grasp the condyles, and then over the lever. Just before applying the power the limb is rotated outward, and the force is applied by forcing the lever upward. The vessels and nerves, being protected by the condyles, escape any pressure. It is found that the femur is fractured just above the condyles, and that correction of the deformity can be readily made.

33. Dr. Harris advocates the following method of applying *constant spring-pressure for the treatment of bow-legs*. He takes ten or twelve rectangular pieces of muslin—size two and a half by three inches—and loads them with fresh plaster of Paris, wet, and applies them one over the other to the outer convex portion of the leg. Having quickly but gently molded them to the limb, a retaining bandage is wound over them and left on until the plaster hardens. Upon removal, the corners of the cast are rounded, the edges are pared and smoothed, and the whole is covered with glue. The inner side of the cast is then lined, and its deepest concavity slightly lessened, with cotton wool. The cast is then applied to the leg, and secured by adhesive plaster and a roller bandage. A sharply bowed steel spring, covered with thin muslin, and long enough, when straightened, to

reach from the knee to the external malleolus, is applied to the outer curve of the leg, the muslin covering the spring being sewed to the bandage at a point over the cast. A bandage is then applied to the foot, ankle, leg, and knee, with sufficient tension to bring the spring in near relation to the limb throughout. It will be readily seen that the plaster cast, upon which the middle convex portion of the spring rests, serves as a point for counter-pressure. [This method seems to be the best that we have seen mentioned, being similar to one advocated by Barwell some years ago, but a vast improvement of the plan of the latter surgeon.]

34. Dr. Fenger reports three cases of *supra-malleolar osteotomy for outward deviation of the foot subsequent to Pott's fracture* healed up in a bad position. The following is the method of operating: A transverse incision was made over the inner surface of the inferior extremity of the tibia, two inches above the inner malleolus, through the skin and subcutaneous tissue, being careful not to open the sheaths of the tendons of the anterior and posterior tibialis muscles. A transverse incision was then made through the periosteum, and a short longitudinal incision at either end of this. The periosteum being separated, a wedge shaped piece of bone, with a base of three quarters of an inch in width, was cut out with a common carpenter's chisel, the point of the wedge being at the external border of the tibia. The fibula was perforated, by means of a drill, in different directions, but on the same horizontal plane, and then fractured. The ends of the tibia were then sutured together. A drainage-tube was inserted, and the limb was put up in a Lister dressing, and a splint, to retain the foot in its proper position. These patients made a good recovery without any suppuration. [We have seen troublesome suppuration follow drilling of bone, and think that an osteotomy with a narrow osteotome would be safer, and necessitate less force being used to bring the foot into position.]

Miscellany.

LEPROSY IN THE SANDWICH ISLANDS. —In the Report of the Hawaiian Board of Health for the two years ending March 31, 1882, we find an account of a visit to the leper settlement at Kala-wao, on the Island of Molokai, by Dr. N. B. Emerson, formerly of New York, but for some years past a medical officer in the service of the Hawaiian Government. We extract the following from Dr. Emerson's Report, substantially in his own words:

I can not but regard this, he says, as a fitting time to consider briefly some theories and views that have been publicly expressed in regard to the nature and sanitary management of leprosy. The importance of these views lies solely in the influence they may have in leading to a sanitary policy that is full of peril, and likely to prove destructive to the Hawaiian people.

The assertion has been made that leprosy is but the fourth stage of syphilis. This can not be substantiated by any medical authority whatever. Historically leprosy antedates syphilis by many hundred years, and its worst ravages in Europe were committed while syphilis was yet unknown. How, then, can leprosy be derived from syphilis, be its "fourth stage?" If the "fourth stage" theory be true, why do not numerous cases of leprosy appear simultaneously wherever syphilis has prevailed? Neglected syphilis—syphilis not thoroughly treated, or not treated at all—is common enough the world over; but we do not find such cases running on into leprosy. The Kamtchatkans are very abundantly diseased with syphilis, and have been for a long time, but leprosy does not prevail among them. As a fact, we find syphilis producing only its like, syphilis, and leprosy only its like, leprosy. Inoculate syphilis in any inoculable stage, and we get but the one and the same disease, syphilis, which to scientific men the world over has thus far presented but three, not four, stages.

Again, leprosy appears in groups, affecting families and people living together; it does not spring up sporadically here and there. If any one has

leprosy, it will be found he has been exposed to the contagion of leprosy in one way or in another. I have carefully examined hundreds of cases of leprosy, talked with them in their own language, and learned their histories, and have, with only a few exceptions, traced the origin of their disease to previous leprosy intimacies or relations.

It is true the Hawaiians were extensively diseased with syphilis before the appearance of leprosy among them, but they *were not all diseased, and are not to-day*; there is a very considerable minority who are exempt. I look upon it as an unjust aspersion of this race to make such a sweeping assertion regarding them as has been made on this point.

In order to satisfy the condition of the "fourth stage" theory argument, it must be clearly proven that every leper was first syphilitic, and that none but those having had syphilis in an advanced, or third stage, have shown leprosy, the so-called "fourth stage." But, as a fact, there are plenty of cases of uncomplicated leprosy among the Hawaiians who have been and are free from syphilis. It will not do to assume that every ache and rheumatoid pain, every indurated lymphatic gland, every necrosed bone, every cracked and fissured tongue, comes of syphilis. Such loose diagnosis as this deserves no refutation. Again, any one well acquainted with the Hawaiian language knows that while the Hawaiians have several words they apply to the lesions of venereal diseases, they have no definite and scientific knowledge of, and have no means of accurately expressing the difference between, a simple non-constitutional venereal sore and a genuine Hunterian chancre, the first lesion of syphilis. As a consequence, a Hawaiian will be likely to say he has had syphilis (*kaokao* or *pala*) when he has merely had a non-syphilitic venereal ulcer. A good knowledge of Hawaiian, therefore, is essential to elicit the facts in such a matter from a Hawaiian patient.

On the theory of "hereditary immunity" of Erasmus Wilson, which has,

curiously enough, been adduced, the Hawaiians, who have had a century of syphilis, ought by this time to have purchased some amelioration in the disease, and it is not logical to suppose that leprosy, a disease vastly more severe and stubborn than any stage of syphilis, is related to syphilis by any such principle as this. The argument works the wrong way.

The clinical history of leprosy and that of syphilis differ widely. It is impossible to go deeply into the differential diagnosis of these two diseases. But briefly:

1. The period during which the disease lies latent in the system in syphilis is reckoned only by months, whereas in leprosy it is prolonged to years.

2. The skin symptoms of leprosy and of syphilis are markedly different. In patients who, like many of our Hawaiian lepers, have both syphilis and leprosy at the same time, there must and do occur puzzling cases, but study will clear up the tangle.

3. The nervous symptoms, the insensitiveness to touch (anæsthesia) and to pain (analgesia), and the various palsies, all of which are very common to leprosy and are a marked feature of this disease, are rare in syphilis, and, when they do occur in syphilis, are of quite a different type and anatomical distribution. It is true that anæsthesia and analgesia (insensitiveness to touch and pain) occur in syphilis, as pointed out by Fournier, as well as in leprosy. But insensitiveness to touch and pain are *not diagnostic of leprosy* by any means, nor does Erasmus Wilson anywhere say that they are. Any physician well acquainted with the various manifestations of nervous diseases would not be guilty of such a blunder. These changes of sensibility are diagnostic of no one disease, but are common to several. Leprosy is to be diagnosticated by no one such rational symptom, but by a group of symptoms taken together. But what does Fournier say? His words are ("Leçons sur la syphilis," p. 800): "Do we not see elsewhere similar phenomena produced in a good number of poisonings—poisoning by lead, arsenic, alcohol, etc.? Pathological analogy testifies strongly in favor of the opinion we here maintain, and permits us to believe that the poison of syphilis can, like other poisons, react on sensibility." They are not, then, peculiar to leprosy and syphilis.

But to illustrate the difference between the palsy produced by syphilis and that by leprosy. A certain nerve branch which supplies the circular muscle that closes the eye is a favorite seat of palsy in leprosy, producing the familiar deformity (known by the Hawaiians as *makahetei*) which makes it impossible to close the eye. This nerve branch is very rarely affected in syphilis. Leprosy in a large proportion of cases affects the ulnar and other nerves of the arm and hand; affections of these nerves by syphilis are pathological curiosities.

4. The ulcerations of leprosy and of syphilis are quite distinct, and need cause confusion only when occurring in a mixed case. In leprosy the bones of the extremities are the ones almost exclusively affected. In syphilis the bones of the head and the shafts of those of the limbs are the ones principally seized upon. In syphilis, nodes are often formed; not so in leprosy.

5. Hereditary syphilis produces a peculiar and well-known deformity of the teeth; the teeth of lepers are not affected.

6. Again, syphilis is a curable, and leprosy is, thus far, eminently incurable, disease. For testimony on this point read such authors as Fournier, Bumstead and Taylor, etc. To quote from Bumstead and Taylor: "We know that the great majority of cases [of syphilis] (estimated as high as ninety-five per cent.) which have been thoroughly treated are absolutely cured, and are never followed by a relapse."

Save in the earliest stages, before the development of objective symptoms, the diagnosis of leprosy presents few difficulties. The Hawaiians make the diagnosis with great correctness, and rarely fail.

In estimating cures or attempts at cure at their right value, the well-known fact must always be borne in mind that recessions are the rule in leprosy, especially in the early stage of the disease. It must not be inferred, because improvement follows the use of certain medicines, even though this be found true in many cases, that such improvement is caused by the medicines used, and is a cure. The improvement occurs also without the medicines. *Post hoc* is not always *propter hoc*.

Too much emphasis can not be put on the fact that leprosy is a contagious disease, or at least capable of communi-

cation from the leper to a well person. The germs lie latent for many years; but at length they produce a crop, and they finally kill. The whole history of leprosy from the earliest times to now marks it as a disease that has propagated itself by human intercourse, and has extended its ravages as its human vehicle, man, has carried it from one land to another, and that has been scotched or killed only as the result of the most active measures of repression and isolation.

"Leprosy is contagious." . . . "Its contagiousness demands its isolation," says Père J. Etienne, a Catholic priest who has for ten years been connected with a leprosy on the island of Trinidad.

"Our whole theory of leprosy rests incontestably on a sad fact," write Dariesen and Boeck; "it is that within the bounds where it commits its ravages it can be made harmless to the rest of the people only by isolation." To experiment with this scourge on any other theory than this is dangerous; to risk the well-being of a whole nation on the supposed truth of any new-hatched, unfledged theory is reckless criminality. If leprosy is contagious, why are its victims among the white people and foreigners so few? I answer: 1, because white people are much more careful than Hawaiians in their choice of companions; and 2, because the whole number of whites in this country is comparatively small.

Hawaii can not afford to retreat from the advanced position it has taken on this point. The population of these islands is too small to be trifled with and risked in a wild experiment; there is danger it will be lost in the process. Due consideration for the welfare of our own non-leprosy people, and that of the increasing number of visitors and those who seek homes with us, makes it incumbent upon us to cling to the safe doctrine of contagion, which is also the plainly taught doctrine of experience in other lands. The necessity for isolation is a sad fact. Courage is needed in a nation, as in a patient, to nerve it to the dread ordeal of a painful surgical operation. However unwelcome the facts may be, it becomes us, as true and honest men, to meet them squarely, and not to imagine we can dodge the force of their blow by closing our eyes to the truth.

As to the question whether lepers

shall be isolated in branch hospitals or at Kalawao, any one who is acquainted with that district, which offers 4,000 or 5,000 acres of fine, healthy pasture, woodland, and valley, with mountains and ocean at hand, can not fail to appreciate that the advantages and health-giving opportunities of outdoor exercise, recreation, and pure air at this place are tenfold what they ever can be at any hospital located elsewhere. Any plan of treatment which fails to provide an abundant out-of-door life and exercise in the open air for the leper can hardly attain success. Though placed in a branch hospital, the leper will still have to suffer the pain of removal from his home and separation from his family and kindred, and, in time, wherever this hospital might be situated, the irksomeness of the restraint and confinement within the narrow bounds of a hospital would become very galling and depressing. Nor need it be urged that to send the leper to Kalawao is to deliver him over to hopelessness and a living grave. If the plan above urged, of having a physician stationed there, is carried out, attempts to mitigate his sufferings, and efforts looking to his cure, if possible, can as well be made at Kalawao as anywhere else.

The plan of having numerous branch hospitals throughout the group will necessarily be very expensive. Each hospital will require its own salaried physician and druggist, its paid attendants, and guards as well, to maintain isolation. And if to these items be added the multiplied cost of numerous buildings, inclosures, apparatus, and furniture, and the further cost of drugs, food, and transportation, it will be seen that the cost of founding and maintaining these numerous separate establishments will be many fold greater than that of providing all these things in necessary abundance at Kalawao, and, if need be, at one other place, say at the present Leper Hospital at Fisherman's Point.

Again, the multiplication of hospitals will also multiply the points that must be strictly guarded from becoming the foci of contagion for the spread of disease. The necessary isolation, which is found so very difficult to maintain even in Honolulu, would be simply impossible on Hawaii, Maui, or Kauai.

Dr. Emerson then gives the following statistics of the leper settlement at Kalawao :

LEPERS AND THEIR OFFSPRING AT THE LEPER SETTLEMENT, APRIL 1, 1878.

Males over 10 years old.....	429
Females over 10 years old.....	263
Children, offspring of lepers, under 10.....	20
Total.....	712

PERIOD FROM JANUARY 1 TO JULY 1, 1879.

Males over 10 years of age, Jan. 1, 1879..	439
Females over 10 years of age, Jan. 1, 1879	302
Males under 10 years old, Jan. 1, 1879...	14
Females under 10 years old, Jan. 1, 1879..	15
Males born in the period.....	2
Females born in the period.....	2
Male lepers received from Honolulu in the period.....	31
Female lepers received from Honolulu in the period.....	19
Males entered as lepers by Med. Supt. in the period.....	6
Females entered as lepers by Med. Supt. in the period.....	8
Males discharged as non-lepers by Med. Supt. in the period.....	1
Males died at the settlement in period..	63
Females died at the settlement in period	46
	110
Totals, July 1, 1879.....	760

PERIOD FROM JULY 1, 1879, TO JANUARY, 1880.

Males above 1 year, July 1, 1879.....	454
Females above 1 year, July 1, 1879.....	304
Males under 1 year, July 1, 1879.....	2
Females under 1 year, July 1, 1879.....	1
Males born during the period.....	1
Females born during the period.....	1
Males entered as lepers by Med. Supt. at settlement during the period.....	2
Males arrived during the period.....	35
Females arrived during the period.....	12
	816
Males over 1 year died during period...	61
Females over 1 year died during period...	33
Males under 1 year died during period...	1
Females under 1 year died during period	1
	96
Total, Jan. 1, 1880.....	720

Male adults in the settlement, July 1, 1880..	383
Female adults in the settlement, July 1, 1880,	242
Male children under 1 year of age.....	1

Total, July 1, 1880..... 626

PERIOD FROM JANUARY 1, 1881, TO JULY 1, 1881.

Males above 1 year, Jan. 1, 1881.....	371
Females above 1 year, Jan. 1, 1881.....	235
Children under 1 year of age, Jan. 1, 1881	3
Males arrived during the period.....	74
Females arrived during the period.....	55
Males born during the period.....	3
Females born during the period.....	3
	744
Males over 1 year died during period...	51
Females over 1 year died during period...	27
Males under 1 year died during period...	2
Females under 1 year died during period	2
	82
Total, July 1, 1881.....	662

For the better understanding of the figures, he explains that the column marked "entered as lepers by the Medical Superintendent" refers to those who become lepers while residing at the settlement, and who were formally declared such by the Medical Superintendent.

He adds that while he held that office he was frequently importuned to do this by the *kokuas* who had long lived among the lepers, and who professed to believe themselves subjects of the disease, in many cases, as he believed, wrongly.

The motive in many cases seemed to him to be that thereby they would be declared capable of receiving rations at public expense, and would not be liable to be called upon to leave the settlement at any time.

THE THERMOMETRIC BUREAU OF YALE COLLEGE.—In his Second Annual Report, Mr. Leonard Waldo, the astronomer in charge of the horological and thermometric bureaus of the observatory of Yale College, states that during the year ending May 31, 1882, the number of thermometers examined was more than double the number examined during the preceding year; 4,552 certificates were issued, as follows:

24 with mercurial standards up to 100° C.
14 with mercurial standards up to 275° C.
6 with Yale standard minimum alcohol, ethyl oxide, and carbon disulphide thermometers for the U. S. A. Signal Service.
255 with minimum meteorological alcohol thermometers.
140 with maximum meteorological mercurial thermometers.
302 with ordinary meteorological mercurial thermometers.
3,811 with physicians' clinical mercurial thermometers.

Compared with last year's work, the figures are as follows:

	1880-81.	1881-82.
Physicians' thermometers examined.....	1,637	3,811
Other thermometers examined.....	299	741
Total.....	1,937	4,552

During the year the officers received twenty thermometers which were broken in transit, and four thermometers were broken in their hands. In every case of the thermometers broken on arrival, it appeared as though proper packing would have insured safe transmission. No thermometers were broken when intrusted to the hands of their New York messenger, and nine tenths of the other breakages occurred in the mails. The four broken at the observatory, one tenth of one per cent. of those examined, represent the risk to which a large number of thermometers are exposed in their manipulations, and it is

not probable this percentage can be lessened.

The improvement in the manufacture of clinical thermometers in this country continues, and the thermometers they receive which are most misleading in their indications are those which come in from private practice, and which have been in use for a year or more. As examples of the errors to which these latter instruments are liable, the following table gives the corrections furnished with seven certificates issued at intervals during the year, and with no effort to select specimens of extreme errors:

THERMOMETER READING.	Corrections to Thermometers.						
	No.	No.	No.	No.	No.	No.	No.
	1.	2.	3.	4.	5.	6.	7.
90	0	0	0	0	0	0	0
95	-1	-1 $\frac{1}{2}$	-0.5	-1.1	-0.4	+3 $\frac{1}{2}$	-1 $\frac{1}{2}$
100	-2	-1 $\frac{1}{2}$	-0.7	-1.1	-0.3	+2 $\frac{1}{2}$	-1 $\frac{1}{2}$
105	-3	-1 $\frac{1}{2}$	-0.9	-1.2	-0.2	+1 $\frac{1}{2}$	-2
110	-4	-1	-1.0	-1.3	-0.3	+ $\frac{1}{2}$	-2

The officers have been much encouraged in this department of the observatory work by the cordial indorsement given to it by the medical press. There have been some suggestions made by gentlemen eminent in the medical profession, both privately and in print, concerning some new facts they should give in the certificates accompanying thermometers sent out. The most important is contained in Dr. E. R. Squibb's interesting paper on clinical thermometers, read at the New York State Medical Society's meeting at Albany, and refers to the testing of thermometers for sensitiveness. He notes the difference in time required for different thermometers to attain their maximum reading, owing to the varying thickness and shape of the glass in the bulb, and suggests that some test be applied which shall give the observer the time required for each instrument to reach its maximum. They have considered this matter, but so far have not devised a simple test which sufficiently approximates the conditions met with in medical practice to be of service in this connection.

About four hundred ungraduated thermometer tubes have been sent to the observatory to be sealed in boxes for proper ageing. With these ther-

mometers, as they are subsequently issued, a special certificate is given, stating the age of the thermometers when examined. The Kew Observatory has followed their example in this matter, and now receives thermometers for sealing in a similar manner.

In February of the present year the observatory received the standard thermometers described in the circular which was then published, and is here given as a foot-note.* As soon as the determinations of their various systems

* *An Announcement concerning the Standard Thermometers issued by the Observatory.*—With the end in view of aiding the referring of thermometric work done in the United States to a common standard, this observatory has prepared a first series of twelve standard thermometers, which it is proposed to issue to such institutions as may desire to obtain them.

The mechanical work on these standards was accomplished by Mous. J. Tonnclot, of Paris, and care has been taken in their construction to have them as free as possible from defects. The bulb is blown from the tube, and is of such a size and shape (length about 36 mm., and maximum diameter about 5 mm.) as to be practically free from the effects of pressure on the bulb when the standard is immersed in water. The calibrating chamber is of such form and dimensions that the mercury leaves it clean on flowing back into the column, and it will retain any quantity of mercury up to several times the amount contained in the capillary tube for the purposes of calibration, or the measurement of temperature above 100° C.

The graduation, extending from several degrees below the freezing point to several degrees above the boiling point, was made by a screw, and is a uniform one of 500 equal parts between 0° C. and 100° C. (Barometer 760 mm. in 45° latitude at the sea-level). This method, while allowing the scale to indicate very nearly centigrade degrees of temperature, allows the observer to repeat the calibration curve to any accuracy he may desire. Every fifth line is longer than the others, and every fifth degree is numbered. The width of a single line of the graduations is about 0.07 mm., and the length of 1° C. is about 4.7 mm. in the longer tubes and about 4.4 mm. in the shorter ones. The tubes were made in April, 1879, of crystal glass, and the graduations were made in December, 1881. They are made in two lengths of about 50 cm. and 45 cm. respectively, and have etched upon them the inscription: *Yale Observatory Standard, No. —. Made by Tonnclot, of Paris. Equal graduations. Crystal Glass Tube made April, 1879.*

The systems of corrections furnished by the observatory with these standards comprise: 1. A comparison at every 5°, from 0° to 100°, with the Yale Standard. 2. A system of corrections to reduce this standard to the Yale Standard, supposing the freezing point to be variable. 3. A copy of the errors depending on calibration alone. (If desired.) 4. The correction to be applied when the standard is horizontal, to reduce it to a vertical reading. (If desired.) These corrections are expressed in hundredths of one degree centigrade.

These standards are packed in brass tubes, and it will generally be practicable to deliver them to applicants by hand, without additional expense.

The charge for one of these standards is thirty dollars, and the risk of safe delivery is assumed by the observatory.

NEW HAVEN, March 7, 1882.

of corrections have been completely determined, ten will be issued to the following applicants:

The Signal Service of the Army.....	2
The John C. Greene School of Science, Princeton College.....	2
The School of Mines, Columbia College.....	2
Weslevan University.....	1
Washington University, St. Louis.....	1
The Ohio Meteorological Office.....	1
Professor Harkness, U. S. N.....	1

The work entailed by these standards has been more serious than was anticipated, but the plan has been so favorably received that the preparation of a second series of twelve standards will be begun during the coming year.

THE HISTORY OF OVIARTOMY.—We take pleasure in publishing the following note from Dr. Janvrin, and bespeak the co-operation of the profession in behalf of the undertaking mentioned: "A 'System of Gynecology by American Authors' is in process of preparation, and it is intended that this shall be as nearly encyclopædic as possible. To me has been allotted the task of writing the chapter on the 'History and Statistics of Ovariectomy.' To obtain complete statistics of all ovariectomies done in the three quarters of a century of the history of the operation is a task quite impossible, as many of the earlier ovariectomists are dead, and their records lost. Even among the living many may be disinclined to co-operate with me as they should. Although the report of each operator's cases may cost him some time and trouble, you will readily see what a valuable fund of information will be obtained by the collation and arrangement of all the facts to be gained. It is desirable, too, to have all material ready for the press by the end of this year—so that the sooner the returns are made, the lighter will be the task of the editor. Please request all who wish their cases published to send me the reports before September 1st proximo. May I request your earnest co-operation in the matter, that the work may be worthy the great subject in hand? The questions to be answered are as follows: 1. Name of operator? 2. Age of patient? 3. Nationality? 4. Married or single? 5. Aspiration or previous tapping? 6. Duration of growth? 7. Laparotomy or vaginal operation? 8. Condition of patient at time of operation? 9. Were antiseptic precautions used? 10. Was the spray used? 11. Long or short inci-

sion? 12. Adhesions or other complications? 13. Double or single ovariectomy? 14. Pathological features of cyst? 15. Treatment of the pedicle? 16. With or without drainage? 17. Duration of operation? 18. Complicated or uncomplicated history after operation? 19. Anti-pyretics used, if any? 20. Result. Cause of death, if any? 21. Primary or secondary operation? Let the answers be as concise as possible. In many cases a simple yes or no will suffice. Will you kindly assist in giving the greatest publicity possible to this notice? Blanks, containing lists of the questions referred to, will be sent to any address. All communications should be addressed to me, at 191 Madison Avenue."

J. E. JANVRIN.

DIGITAL EXPLORATION OF THE BLADDER IN WOMEN.—The "Lancet" calls attention to "Sir Henry Thompson's recent proposal to examine, by means of the finger, obscure and chronic disease of the bladder, hitherto inexplicable by sounding, etc."; and speaks of it as yielding valuable results. Whoever may take this means of diagnosis to be new is referred to a paper by Dr. Noeggerath, of this city, entitled, "The Vesico-vaginal and Vesico-rectal Touch. A New Method of examining the Uterus and Appendages," which is to be found in the "American Journal of Obstetrics," vol. viii, 1875-'76, p. 123.

THE LATE DR. JAMES R. WOOD.—At a meeting of the Medical Board of Charity Hospital, held July 1st, at the Academy of Medicine, the following commemorative resolutions were passed:

Whereas, At the end of a long life devoted to the relief of human suffering, and the exaltation of the profession of which he was an honored and devoted member, James Rushmore Wood, M. D., LL. D., a consulting surgeon of this hospital, has been taken from us; and,

Whereas, When such a life is ended, it becomes those who have been associated with, and have profited by, his labors, to give official expression to their sense of the great loss they have sustained; therefore,

Resolved, That we, the members of the Medical Board of the Charity Hospital, appreciating his noble and generous character, his unselfish devotion, his large-hearted and open-handed charity for the poor and distressed, and believ-

ing that his best eulogy and most lasting monument will be found in the record of his life, here add our tribute to his memory, our acceptance of the value of his example, and our pride that his name and his labors have a place in the records of our profession, tendering to his family and friends our sympathy in their grief.

Resolved, That these be a part of our minutes, and be forwarded to the widow and the honorable Board of Commissioners of Charities and Correction.

J. F. FERGUSON, M. D.,

JOSEPH W. HOWE, M. D.,

W. M. CHAMBERLAIN, M. D.,

Committee on Resolutions.

W. T. WHITE, M. D., *President.*

EDWARD S. PECK, M. D., *Secretary.*

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from June 14, 1882, to July 13, 1882.*—By direction of the Secretary of War, the medical examining board convened in New York City by S. O. No. 223, October 30, 1877, from A. G. O., is dissolved, to take effect June 30, 1882, and the following-named officers, now members of the board, will report by letter to the Surgeon-General: Major Joseph B. Brown, Surgeon; Major Joseph H. Bill, Surgeon; Major Charles H. Alden, Surgeon. S. O. 147, A. G. O., June 26, 1882. — ELBREY, F. W., Captain and Assistant Surgeon. To be relieved from duty in Department of the Missouri, July 1, 1882, and to report in person to the Surgeon-General in this city. S. O. 137, A. G. O., June 14, 1882.

— HAVARD, VALERY, Captain and Assistant Surgeon. Relieved from temporary duty at these headquarters, and at post of San Antonio, and assigned to duty as post surgeon at Fort Duncan, Texas. S. O. 68, Department of Texas, July 5, 1882. — HOFF, J. V. R., Captain and Assistant Surgeon. Having reported at these headquarters, is assigned to duty as post surgeon at Alcatraz Island, California. S. O. 107, Military Division of the Pacific, and Department of California, June 17, 1882. — FINLEY, J. A., Captain and Assistant Surgeon. Assigned to duty as post surgeon at Fort Concho, Texas. (Fort McKavett abandoned.) S. O. 68, C. S., Department of Texas. — DE LOFFRE, A. A., Captain and Assistant Surgeon. Relieved from further duty at Fort Wallace, Kansas, and assigned

to duty at Fort Sill, Indian Territory. S. O. 124, Department of the Missouri, June 21, 1882. — GARDNER, E. F., Captain and Assistant Surgeon. Relieved from duty at Vancouver Barracks, Washington Territory, and assigned to duty as post surgeon at Fort Cœur d'Alène, Idaho. S. O. 83, Department of the Columbia, June 19, 1882. — POWELL, J. A., First Lieutenant and Assistant Surgeon. To report to the commanding officer at Fort Davis, Texas, for duty. (Fort Stockton, Texas, abandoned.) S. O. 68, C. S., Department of Texas. — BANISTER, J. M., First Lieutenant and Assistant Surgeon. When relieved by Assistant Surgeon De Loffre, to proceed to camp of Ninth Cavalry near cantonment on the Uncompahgre River, Colorado, and report to the commanding officer for duty. S. O. 124, Department of the Missouri, C. S. — GORGAS, W. C., First Lieutenant and Assistant Surgeon. When relieved by Assistant Surgeon Havard, to report to the commanding officer, Fort Brown, Texas, for duty. S. O. 68, C. S., Department of Texas. — *Appointments.*—To be Assistant Surgeons, to rank from May 23, 1882: William E. Hopkins, of California, vice Yeomans, deceased; Charles C. Barrows, of Mississippi, vice Brewer, deceased; Benjamin Munday, of Virginia, vice H. E. Brown, promoted; George F. Wilson, of Oregon, vice J. M. Brown, promoted; William E. Owen, Jr., of Tennessee, vice King, resigned; Peter R. Egan, of New York, vice Hubbard, promoted; William J. Wakeman, of Connecticut, vice Coues, resigned; Edward Everts, of California, vice Whitehead, deceased. A. G. O., June 12, 1882. — Under the provisions of Section 1, of the Act of Congress, approved June 30, 1882, the following-named officers are, by operation of law, this day retired from active service, viz: Brigadier-General Joseph K. Barnes, Surgeon-General; Colonel John M. Cnyler, Surgeon; Colonel William S. King, Surgeon; Lieutenant-Colonel James Simons, Surgeon. S. O. 151, A. G. O., June 30, 1882. — NOTSON, WILLIAM M., Major and Surgeon. Died at Columbus Barracks, Ohio, June 23, 1882. — MOFFATT, Peter, Captain and Assistant Surgeon. Died at Fort Cœur d'Alène, Idaho, on June 15, 1882. — O'DONOGHUE, F., Captain and Medical Storekeeper. Died at New York City, June 29, 1882.

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Original Communications.

THE DEVELOPMENT OF THE EYE.

By WILLIAM C. AYRES, M. D.

III.

THE CHOROID.

IN reviewing the literature of the development of the eye, we find the first communication upon the choroid coming from Remak. In this he considers the choroid as being formed from the outer layers of the secondary ocular vesicle, which opinion, I may state, however, is entirely contrary to all our modern views.

For instance, Kölliker considers that this outer layer passes over into the pigment layer of the retina and takes no part in the formation of the uveal tract, which we shall also see to be correct when we study the formation of the retina. He based his view upon the examination of a very young embryo, in which he found a tissue surrounding the eye which contained blood-vessels, inclosing the secondary ocular vesicle behind, and being continuous with the corneal tissue in front. He also states that these vessels do not stand in connection with those which surround the lens, a system with which we are already acquainted.

Max Schultze ("Archiv f. mikrosk. Anat.," Bd. ii) also states that the choroid tissue does not come from any part of the secondary ocular vesicle, nor does any part of its pigment. The latter

statement is also true, since the uveal pigment is a very late production, and comes from an entirely different source, as we shall presently see. Kessler and Lieberkühn agree with Kölliker and Max Schultze.

J. Arnold states that in embryos of from 6 to 8 mm. he was not able to detect blood-vessels in the region of the young choroid, while in those of 9 mm. they were quite numerous, and encircled the eye in its whole circumference, except a small portion just in front. At 12 mm. he was able to trace this system over the anterior portion and into the tissue which lies between the ectoderm and the lens vesicle, the future cornea. This latter condition then continued to be present in a series of embryos up to 18 mm., with the single exception that the vessels were more numerous and their zone broader. He states further that, hand in hand with this increase in the vessel zone, the thickness of the outer layer of the secondary ocular vesicle decreases, and finally the uveal pigment appears between them. In embryos of 28-30 mm. the choroidal tissue shows a differentiation into an inner part with the blood-vessels and an external portion free from them. We now find a separation occurring between the external layer of the choroid and the young sclera.

Whereas J. Arnold declares that he has not been able to detect blood-vessels in the locality of the future choroid in embryos of 9 mm., we observe in our specimen of 6 mm., which is represented in Fig. 2,* that the whole primary ocular vesicle is surrounded by a system of vessels, which runs at least one fourth through the corneal tissue, or between the lens and the primary epithelium of the cornea, the ectoderm.

The formation and origin of this system of blood-vessels are very important, since they certainly represent the earlier stages of the choroid, and demonstrate most positively that neither the choroidal tissue nor its pigment can have any relation to the ocular vesicle. Also, since the choroidal tissue is formed from the mesodermal elements immediately around these vessels, and from them alone, the pigment epithelium of the retina can have no relation to the uveal tract except one of apposition.

The choroidal tissue starts, then, as a part of the mesoderm just surrounding the primary ocular vesicle, and in its earliest stages can not be distinguished in any way from the elements of this embryonic layer (mesoderm) in any other locality.

In an embryo 6 mm. in length, blood-vessels occur which surround the whole eye more or less completely. At 9 mm. they are

* This journal, July, 1881, p. 22.

much increased in quantity and size, but preserve their other relations.

At this stage the entrance of the hyaloid artery takes place, but is an occurrence of very short duration. The lens is also detached from the ectoderm, and has blood-vessels completely surrounding it. These vessels are directly continuous with those of the choroid, through the corneal space, and over the bend in the secondary ocular vesicle.

At this stage there are no characteristic elements of the choroid except the vessels, no pigment having been formed for this tissue.

The outer wall of the secondary ocular vesicle has become very thin, being about one eighth as thick as the inner, which thinning continues up to 20 mm., when it represents only one layer of cells, which have already many of the characteristics of the adult retinal pigment epithelium.

At from 30 to 33 mm. the choroidal tissue, especially in front, becomes separated into two layers—an inner one containing the blood-vessels, and an outer one between them and the sclera.

At 36 mm. the anterior end of the uveal tract has begun to be transformed into the ciliary body and iris, as we shall presently discuss, and its posterior end abuts against the optic nerve (in sections).

We therefore see that the choroidal tissue commences at a very early period, but has no characteristic not possessed by the whole mesoderm, until the appearance of its blood-vessels. This is quite important to remember for the correct understanding of the formation of choroidal colobomata.

After the blood-vessels have appeared, there commences a separation of the choroidal tissue into two zones, the one containing the blood-vessels representing the chorio-capillaris and layer of larger vessels; the other, the stroma proper.

At the outer edge of the stroma layer the cells now become more crowded together, and a little later a system of holes appears, just as we saw in the formation of the anterior chamber. These holes become more numerous, and result in a tissue with meshes and interspaces—the supra-choroidal lymph space. The analogy between this process and that of the formation of the anterior chamber is complete, with the exception that in the former case the meshes remain and form the attachment fibers from the choroid to the sclera, whereas in the latter they are all broken, and a free space results in the anterior chamber of the adult eye.

We may, therefore, sum up the choroid by saying that it takes

its origin from the original mesodermal tissue which surrounds the primary ocular vesicle, and is, consequently, a formation *in loco*. At first its cells are not arranged according to any order, but subsequently a distinction occurs which is completely analogous to what takes place in the cornea in the formation of its basilar membranes.

The choroid and sclera are continuous in early embryonic life, but they are afterward separated, just as the anterior chamber was formed—viz., by the production of holes and meshes. In the case of the anterior chamber the process becomes complete, and a free space exists, whereas in that of the choroid it does not become so, and the peculiar loose connection which we find between the choroid and sclera results.

The pigment of the choroid is of late origin, and is formed in the same way as that of the iris and ciliary body—a process which we shall mention under the head of these last-mentioned tissues.

THE CILIARY BODY AND THE IRIS.

Baer was the first to write about the development of the ciliary body and iris. In his article he states that, in the case of the chick, at the end of the seventh day, where the retina ends, the dark tissue of the choroid pushes itself forward and forms the ciliary body. At the tenth day the iris is represented by a small zone of uncolored substance projecting toward the lens. Its color begins to appear at the end of the thirteenth day.

F. Arnold ("Untersuch. über das Auge," pp. 149, 150) writes that, in the case of the human embryo, the iris appears at the end of the second month, in the shape of a colorless ring of tissue, which tissue begins to receive its pigment at the end of the third month. It is at first made up of round cells, which afterward become transformed into fibers.

Remak is very brief in his writings, simply stating that, at the end of the fourth day, in the case of the chick, the external portion of the ocular vesicle has a layer of pigment deposited on it, which represents the choroid; and that the anterior part of the choroidal tissue subsequently forms the iris and ciliary body.

Kölliker declares that, at the end of the second month, and toward the middle of the third, in man, a small, uncolored ring of tissue appears at the anterior end of the choroid. This, by a continuous train of development, results in the tissue of the iris. In man it becomes colored at the end of the third month.

Kessler writes that, on the seventh day, in the chick, a decrease in the thickness of the inner layer of the secondary ocular vesicle

occurs, when a division takes place into two parts. At the tenth day another separation is seen, whereby the anterior portion of the secondary ocular vesicle becomes the pigment layer of the iris, and the posterior forms the inner pigment layer of the pars ciliaris retinae and the pigment epithelium of the same part. According to this view, the ciliary portion of the secondary ocular vesicle reaches from the iris to the ora serrata, where it becomes continuous with the retina without any sharp change. The peculiarity of this is, that, in the development of the corpus ciliare and iris, both the layers of the ocular vesicle are concerned, as also the tissue of the mesoderm. Lieberkühn is of the same opinion as Kessler as to the foregoing.

Winter thinks the iris is a formation from the pupillary membrane; and Zernoff that it is a transformation from the anterior portions of the temporary lens capsule (vascular).

We will cite one more authority, and then discuss our own specimens. J. Arnold calls attention to the relation between the atrophy of the outer plate or layer of the secondary ocular vesicle and the formation of the pigment of the choroid, the iris, and the ciliary body, but he does not think that this pigment takes its origin from the retina. He says that, in the case of the ox embryo of 70 mm., the inner layer of the young retina has entirely disappeared. The pigment layer (outer) is, on the contrary, much thickened, and runs abruptly up to the mesoderma in front, whereas before it was separated from it by unpigmented cells. At this locality the tissue of the mesoderm is also much augmented in volume, and is rich in vessels, which communicate with the system which runs in front of and behind the lens. The importance of this communication of blood-vessels we shall see when we study the formation of colobomata, and especially pseudo-colobomata. The end of the ocular vesicle is now pointed, whereas before it was rounded off. There is also quite an accumulation of pigment between the two layers of the secondary ocular vesicle, but it does not reach the outer contour of the vesicle, nor does it stand in any relation to the choroidal tissue or that of the ciliary body. He declares the iris and the ciliary body to be developed from the end of the choroid, and states that they all have their origin in the tissue of the mesoderm.

As to our own specimens, some of which we have already represented by drawings in the previous articles of this series, at a very early stage we find the globe completely surrounded by a system of blood-vessels, except just in front, where the cornea is to be formed. We do not find them running between the primary ocular

vesicle and the ectoderm. At 9 mm. the whole blood-vessel system of the embryonic eye is the same as it has been from its earliest formation, with the exception that one vessel has entered the interior of the retina, or the future vitreous chamber, where it is known as the hyaloid artery.

The lens becomes detached from the ectoderm at 12 mm., when the vessels of the young choroid pass over the lens in front, and, by communicating with those behind the lens, surround it entirely by what we call the *membrana capsularis* and the *membrana capsulo-pupillaris*.

The outer layer of the secondary ocular vesicle is not much atrophied at this age (12 mm.), being about one half as thick as the inner. This has a direct relation to the formation of the ciliary body. At the age of 17 mm., however, this layer has become very much atrophied, being reduced to one single layer of cells *posteriorly*. In front we find a certain thickness remaining, with an accumulation of retinal pigment in it, but this pigment is inclosed between the two walls of the ocular vesicle.

The stroma of the ciliary body commences to be distinguished from that of the choroid, by its thickness and the different shape of its cells, at 14 mm. This stroma is formed at the anterior end of the choroid simply by an increase in the number of its cells, and by the cells becoming oval or spindle-shaped. The cells of both the choroid and the ciliary body are formed from the original mesodermic tissue which surrounded the primary ocular vesicle in its progress from the anterior cerebral vesicle toward the outer surface of the head. That is, all of that part of the choroid and ciliary body which is afterward connective or muscle tissue. The peculiarity in the development of the ciliary body is the formation of its inner layer, or what is analogous to the lamina elastica of the choroid, and the pigment on its inner side.

We shall see, when we come to study the development of the retina, that over all of the secondary ocular vesicle behind the *ora serrata* the inner layer increases in size until it is transformed into the nervous and connective tissue of the retina, whereas the outer layer decreases until it becomes reduced to a single row or layer of cells—the pigment epithelium.

In front of the *ora serrata*, as far as the ciliary body is concerned, the reverse is the case: the *inner* layer is reduced to a single layer of cells which lines the ciliary body and processes as a non-pigmented epithelium, while the outer remains of a certain thickness, and represents the thick layer of pigment we find on the ciliary body and processes of the adult eye. As it becomes thicker, it takes on a

wavy contour, which is the first intimation of the formation of the ciliary processes.

At 20 cm. we find a ciliary body which is so well developed that we can distinguish three separate layers, the inner one being made up of cylindrical cells, placed perpendicularly to the contour of the other tissue, these cells running the whole length of the ciliary body, up to the tissue of the iris. Here they stop. The next layer is composed of pigment cells; it is thick and wavy; it is pointed at its anterior end, and passes over on to the posterior surface of the iris tissue. Outside of these two layers we have a third layer, which is rich in round, oval, and spindle-shaped cells; it contains many blood-vessels, and, anteriorly, is continuous with a tissue which projects toward the axis of the eye. This last tissue is that of the iris. Posteriorly, it is continuous with the choroid.

The ciliary body is, therefore, a tissue which has been produced from the anterior part of the choroid, which in turn has had its origin in the mesoderm. The secondary ocular vesicle has also taken part in the formation of this member in such a way that its inner layer has become reduced to a single row of cylindrical cells, and, taken with the pigment cells furnished by the outer layer, it forms an epithelium for the ciliary body.

The formation of the iris is very peculiar, since its whole tissue must be transported into position and then changed to its characteristics, whereas the choroid and ciliary body, which are most intimately connected with it, are formed *in loco*.

At the age of 17 mm. we may notice that the end of the secondary ocular vesicle is rounded off, and it is so placed that the line of separation between the two layers runs almost parallel to the optical axis. A little later than this the end becomes pointed, and the external layer lengthens out so as to present its outer surface directly to the front, whereas, before, this position was held by the tissue which joined the two layers together anteriorly. I lay much stress on this condition, or rather this peculiar step, in the development, since it is, in my opinion, the key-note to the formation of the iris. And it has been overlooked by most authors on the development of this membrane. At 33-36 mm. the pigment layer has developed so much more than the inner one that, the latter not being able to separate from the former, a loop has been produced, so that the end of the vesicle is now made up of two layers of cells, both of which have come from the outer or pigment layer of the ocular vesicle.

Along the whole length of the ciliary body we noticed two layers which came from the ocular vesicle—one pigmented and one

unpigmented. The lower surface of the iris (for when the pigment layer of the ocular vesicle pushed itself out in advance of the unpigmented one it was to form a part of the iris) is also composed of two layers from this source, but both of them are pigmented. The cause of this is the formation of the loop in the pigment layer of the secondary ocular vesicle, as we have already seen.

The production of the real tissue of the iris takes place from the anterior end of the ciliary body. It will be remembered that there were many blood-vessels which extended from the choroid system around the bend in the ocular vesicle, and passed down behind the lens to anastomose with those in the vitreous chamber.

There were also a number of vessels which came from the mesoderm and passed over to the anterior surface of the lens. Between these two systems the cells of the anterior part of the ciliary body migrate toward the axis of the eye, and form a tissue which is consequently composed of cells and blood-vessels. This is the basis of the iris tissue.

At 7 cm. this tissue reaches the surface of the lens, and lies in close apposition to it, there being no space between them.

At 12 cm. the iris tissue is composed of round cells, spindle cells and fibers representing the stages of fiber formation from round cells. The lower surface is covered by the pigment cells of the ocular vesicle, but has no unpigmented cylindrical cells, as was the case with the ciliary body. Where these unpigmented cells stop is the junction of the iris and ciliary body, and this relation continues in after-life.

The stroma of the ciliary body has been formed from the mesoderm, and from the end of this structure cells have migrated toward the axis of the eye between the blood-vessels which were formed there in early foetal life. The iris is, therefore, also a formation from the mesoderm.

I would also remark that, since these migrating cells run in between the meshes of a system of blood-vessels which lie directly on the surface of the lens, the cells themselves are in apposition to the lens capsule, and remain so.

The mistake is often made that the posterior chamber runs up to the pupillary margin of the iris as a free space, but this is not true, and the reason for it we see in the manner in which the iris is formed.

Finally, the stroma of the iris is formed from the mesoderm, its posterior pigment layer from the secondary ocular vesicle, its anterior epithelium also from the mesoderm, analogous to the endo-

thelium of Descemet, as we saw when we were considering the production of the anterior chamber.

There are two distinct kinds of pigment found in the ciliary body and iris. All of the pigment which comes from the external pigment layer of the secondary ocular vesicle is granular from the beginning, and remains so. The pigment of the stroma of these structures is formed in the original cells of the mesoderm. These cells are at first round and unpigmented. Subsequently a yellowish pigment appears inside of some of them. These cells then send off offshoots, and assume the peculiar stellate forms in which we find them in the uveal tract of an adult eye. This pigment is always flocculent, whereas that from the ocular vesicle is always granular—a difference which speaks emphatically against the theory that the choroid derives its pigment from the retina—an opinion which has not a few supporters even to-day.

THE RETINA AND THE OPTIC NERVE.

We have already seen how the primary ocular vesicle was produced from a portion of the walls of the brain cavity (Figs. 1, 2, 3, etc.), and further discussion of this portion is, therefore, not necessary. I would, however, again call attention to the fact that, from the time of the origin of the retina to its complete development, it is always in immediate connection with, and formed from, a portion of the brain itself. This is peculiarly interesting when we look upon it as a nerve of special sense, and allows us to form some conception of the reason why it is of such a delicate nature, and, indeed, gives some justification to the assumption of some authors who include, under the name of retina, that portion of the brain from which it takes its origin, the optic nerve, and its expansion on the fundus of the eye.

After the secondary ocular vesicle has been formed it consists of round or oval cells, which are somewhat pointed at either end; but these cells, if they may be called so, do not contain nuclei or any surrounding of protoplasm. They are placed precisely as in the brain, with their long axes perpendicular to the plane of the vesicle at the part where they occur, giving them a radiatory arrangement, which they retain at all later stages.

Soon after the primary ocular vesicle has been completely formed we find it projecting far out into the mesoderm, and approaching the ectoderm, at each successive stage of increase in its volume of tissue, until it has nearly reached the external layer of the head of the fœtus (Fig. 2). This layer it never reaches, however, and there can always be seen a thin strip of tissue between it and the ecto-

derm, as we have already remarked when studying the formation of the lens capsule.

Kessler and some others insist that an actual contact occurs, but this I have never been able to see in any one of the many specimens I have examined in regard to this special point. On the contrary, there is always the tissue just referred to between them, and this tissue, though very transparent, and capable of being stained but very slightly with any of the various coloring materials known to microscopic technology, can always be seen, on close examination, to contain cells and intercellular substance. I mention this part of the mesoderm again, since it plays an important part in the formation of the *limitans interna retinæ*.

We now have the primary ocular vesicle in its complete form, presenting a globular figure, attached posteriorly to the brain vesicle by a hollow stilus, which represents the optic nerve, and whose cells are the same in form and position as those which compose the embryonic brain.

The next stage in the development of the retina is brought about by the formation and sinking in of the lens, from the external layer of the head. As the lens vesicle recedes from the surface, the primary ocular vesicle becomes bent in at the anterior pole of the globe and is doubled upon itself, by which action a space is formed, into which the lens is received, where it develops to its ultimate form. The ocular vesicle is then placed in a second condition, having an external and an internal layer, both of which layers, taken together, are known as the secondary ocular vesicle (Figs. 4 and 5).

The inner one of these two layers is limited on both sides by a sharp contour, and is made up of cells in which nuclei are not to be distinguished. The two are far apart in the earlier stages, but, by an increase in the volume of the tissue of the vitreous, the internal continually approaches the external until they come in actual contact, and form, together, the whole substance of the retina. From the internal of these the nine inner layers of the retina are to be formed, while the external is to form the tenth, the black pigment epithelium.

Just before the two layers come in contact with each other they are equal in thickness, or nearly so (Fig. 4), while later than this period the internal one continually increases in volume, whereas the external diminishes, and finally represents only one layer of flat, pigmented cells—the pigment epithelium just referred to.

At the age of 12 mm., in the embryo of the ox, we find the pigment of the retina already present in considerable quantity, lying in the external layer, around the whole ocular vesicle. It is

also surrounded by blood-vessels at the earliest stages, contrary to the opinion of some authors, who say they only find them much later.

At this time the inner layer presents the well-defined contour already referred to, and lies in immediate contact with the tissue of the vitreous. The entrance of the central artery now commences, and, at a certain time, this entrance has so far advanced that the vessel lies between the two layers of the secondary ocular vesicle, having already passed through the external one.

The outer layer is pushed into quite a deformity, and is broken at one point where the artery passes in, the inner one remaining entire, and passing unbroken over the optic nerve. The vessel, which lies between the two layers, is continuous over the outer end of the retina with those of the mesoderm. The cells are now seen to contain nuclei and a well-defined protoplasm surrounding them. The equality in thickness of the two layers of the secondary ocular vesicle still exists.

The central artery, or hyaloidea, then passes through the inner layer and lies entirely within the eye, the coloboma produced by its passage is rapidly replaced by appropriate tissue, and, in most instances, all traces of the defect in the continuity of the retina are lost in a very short time (Fig. 5). If this be not the case, we shall find in after-life the condition known as coloboma of the retina and optic nerve, and frequently accompanying it a corresponding defect in the choroid; but of these conditions we will speak hereafter.

After this restitution the arteria hyaloidea lies within the globe, and is continuous with the vessels which surround the lens and communicate with the mesoderm over the anterior end, or bend in the young retina.

The internal plate or layer of the secondary ocular vesicle is no longer continuous over the optic nerve, but has been broken through by the juxtaposition of the arteria centralis, which condition always remains, giving a free entrance to the nerve fibers.

This whole condition of the internal and external layers of the ocular vesicle, the stilus of the optic nerve, and its connection with the cerebral vesicle, are well represented by an ordinary goblet, if we let the interior of the goblet represent the space for the lens and vitreous. The exterior and interior walls of the body of the goblet will be the two corresponding layers of the secondary ocular vesicle; the connection of the body with the base, the optic nerve; while the base itself will give us a clear conception of the way in which the stilus for the optic nerve connects with the young brain. If we place a string along the outer side of the goblet, and imagine that,

if we pulled this string, it would cut through the substance of the glass and come inside, we have the precise manner in which the arteria hyaloidea penetrates the globe.

The external layer now commences to atrophy, so that, at the age of 14 mm., it has a thickness only one fifth of that of the inner. There appears a clear zone of tissue along the inner surface of the inner layer of the vesicle, which tissue is produced by a system of fibers which are placed radially, or represent so many normals to the cavity of the vitreous. These are the radiating fibers of Müller, which form the connective-tissue support of the adult retina.

As the vitreous advances upon the retina its soft tissue pushes upon these fibers, and the consequence is they project out in the vitreous and form an irregular contour. They are bent around as the vitreous becomes more consistent, and form the fibrous portion of the limitans interna. I do not mean to say that they constitute the whole of this membrane; but that they form a considerable part of it is beyond a doubt. There then exists an intimate relation of the retina and the vitreous; probably the most intimate that exists at any time of life.

In all instances in which a detachment of the vitreous tissue from the retina takes place, it will be seen that these fibers are broken, so that half, or at least a part, of each fiber stands in connection with the limitans and part with the retina. The radiating fibers run through the whole thickness of the retina, and are spread out on the outer surface of the internal wall; bending over, they form themselves into a membrane—the membrana limitans externa. All of the tissue which has been formed so far produces connective tissue. The cells are oval, with round nuclei, in the body of the retina; but, in the clear zone of the fibers of Müller, we find other cells appearing later, which may possibly represent some of the ganglion cells of the retina; and I think the probability is strengthened by the fact that these same cells occur in the brain, where they are considered as the representatives of the ganglion cells of that organ.

Let us now look at what takes place in the early retinal tissue in that portion which is destined to be transformed into the pars ciliaris retinae. Posteriorly, the external layer has atrophied almost to a single layer of cells, and when this has been fully attained they become flat, and have the character of epithelium. Anteriorly, this is not at all the case. Here the layer retains a certain thickness, its cells being still oval or cylindrical, and passing directly over to form a certain portion of the corpus ciliare, whereas the *internal* layer becomes atrophied, and is itself reduced to a single row of

cylindrical cells, which pass over to form the epithelium of the ciliary body. We therefore see why it is that this layer represents no nervous element anterior to the ora serrata, since the position for the nerve elements of the retina has probably disappeared before the nerves are formed as such, for the nerve fibers appear later. The connection between the connective tissue of the retina and the fibers which form the *limitans interna* and the *ligamentum suspensorium* still exists, and afterward forms a part of the attachment of this ligament to the ciliary processes.

The inner layer of the young retina will thus form the epithelium of the *corpus ciliare* up to the junction of the iris. The external one forms a zone of pigmented tissue along this body and passes over on to the iris, furnishing it with the epithelium of its lower surface, continuing out to the margin of the pupil. When the *membrana pupillaris* atrophies in the center, so as to form the pupillary opening, this epithelium of the lower surface comes in contact with that of the upper surface, so that where the one stops the other begins.

Posteriorly, the outer layer of the secondary ocular vesicle has become atrophied, as we have noticed, to a single layer of flat cells with pigment. The fibers of the optic nerve pass into the eye and form quite a solid tract, as we shall see farther on. The inner layer seems to abut abruptly against this tract at the papilla and is discontinuous, whereas, in many specimens I have seen, those of the external layer bend around and continue for some distance along the nerve as if they were intended to form its inner sheath.

At the age of 30-33 mm. we find a differentiation of the body of the retina into layers, and it has so far progressed that at this time we can distinguish seven distinct zones of tissue—the *limitans interna*, the layer of optic-nerve fibers, the ganglion cells, the two granular layers, the *limitans externa*, and the pigment epithelium. The two molecular layers make their appearance later, whereas the rods and cones are produced, in some animals at least, after birth. Of course, these layers at so early a stage are in a very rudimentary condition, showing their presence for the most part by a difference in the density of the various portions of the retina, or by the different degree in which they absorb the substance with which the specimen has been colored. In a human embryo of three months, which has been successfully injected, the vessels of the eye are found already formed, with the long and short ciliary arteries, and those of the retina and the optic nerve.

There are many peculiarities to be noticed in the formation of the pigment, both of the retina and of the uveal tract. Some

authors contend that they come from the same source, and probably they do, but not in the sense those authors seem to set forth. The retinal pigment is to be found at an early stage, even before the two layers of the secondary ocular vesicle have come in contact with one another. It always occurs in the shape of dark-brown points, so to speak, and always on the inner part of the outer wall of the secondary vesicle, where it remains situated in a closed cavity produced by the two walls of this vesicle. These walls never become broken at any point so as to admit of this pigment "*wandering*" from its original place of formation, and, consequently, it can never be concerned in the production of any portion of the eye where the retina does not play a part.

We have just noticed that the secondary ocular vesicle has two important offices to fill in the production of the corpus ciliare and the iris. The outer layer has its pigment much increased, and its cells become transformed into large pigment cells with dark-brown or black pigment, and line the inner surface of the ciliary processes next to their epithelium. The inner layer is also reduced to one row of cylindrical cells in section, and lines this pigment layer of the ciliary body as an epithelium. The retinal pigment seems to be placed more between the epithelial cells, so that if a flat preparation be studied it marks out the lines of contact of these cells, and takes up a position within the cell body somewhat later. It is always near the inner contour of the outer plate, and remains there, so that, when the epithelial character of the cell has been completed, the pigment is invariably found at the inner ends of the cells. When the processes run out from the epithelial cells between the rods and cones, the pigment still holds its position at the end of the cells near the *limitans externa*, and this position it probably retains until the eye has been exposed to daylight, when it mounts up into the cell body. One thing is certain: that the microscope always gives the position of the pigment near the inner end of the cell in all foetal eyes, as it does in an animal which has been killed in the dark.* This pigment is, in the beginning, of a dark-brown color, and does not appear as a concomitant part of a

* I would here mention the fact, more particularly studied by Ewald in Kühne's laboratory in Heidelberg, that, if an animal be placed in the dark and killed without any light having been admitted to its eye, the retina taken out and the epithelium examined, all the pigment will be found at the upper end of the cells, and in some instances as far into the cell body as to be compacted around the nucleus. If the animal be killed in the light, however, the condition is reversed, and the pigment is nearly all down among the offshoots, or even reaching as far as the *limitans*. We therefore see how it is probable that the pigment of the foetal eye remains in its original position until light and darkness have acted on the retina, when it mounts up into the cell body.

cell, but simply as colored points, and in later stages assumes a crystallized form in all places where it occurs. This is not at all analogous to the production of the pigment of the uvea. At a time when the iris is far advanced, this last pigment begins to make its appearance near the top of the iris tissue, while near the retinal portion of that member or its lower pigment epithelium there is a zone which is free from it. We first find near the top peculiar cells somewhat larger than the average of those of the mesoderm. They have no pigment in the beginning, but subsequently receive a few flakes of a peculiar lighter brown within the cell body. These cells are in the first stage round, but they very soon send out an offshoot from either end, and then assume a spindle shape. Another offshoot in an irregular manner gives us a tripolar condition. This process may go on to any extent until we find in the adult state all possible forms, but the pigment is always flocculent in character, and never crystallized like that which comes from the retina. This condition is so constant that, in examining the iris of a fully formed animal, one can distinguish at the first glance every grain of retinal pigment, and every flake of that which is peculiar to the uveal tract.

These two pigments are so different from each other that, if we macerate the retina and choroid in water so as to set the pigments free, they can easily be separated by the heavy crystallized retinal pigment sinking to the bottom of the vessels, while the uveal pigment floats in the fluid.

The water can then be poured off with the flocculent pigment suspended in it, while the crystals will still remain in the vessel. They can then be collected and experimented with as Kühne has done.*

According to Max Schultze, the rods and cones are formed after the birth of the foetus, and his work has been repeated by many authors, all coming* to the same conclusion. These elements commence as small nodules, raising up the *membrana limitans externa* and projecting out into the region of the pigment of the retina. As they develop, the rods, especially, run in between the offshoots from the epithelial cells, and become surrounded on all sides at their ends by pigment and the fluids of the external layer of cells—a circumstance of great importance in the physiology of this part of the eye. As the rods pass outward they probably carry along with them a layer of the *limitans*, which does not become broken,

* This retinal pigment is sensitive to light, as Kühne has spread it on a piece of porcelain and made an optogram, like the negative of a photograph; but, of course, the exposure had to be kept up for many days.

and we notice, in the examination of fully formed animals, that this sheath is very peculiar in its structure, and made from a tissue not at all the same in character as the majority of the connective tissue portions.

This I have found when studying the physiology of the retina, and especially the digestion of the retina with trypsin. The outer sheath of the rods is not digested by this process, and, consequently, it can not be of the general nature of connective tissue. It is probably horny in character, as some of the supporting portions in the inner layers are also found to be by Kühne.

The walls of the rods and cones themselves are also very peculiar, being different from any other tissue found in this vicinity, which characteristic they show by their reaction with osmic acid. If a retina be treated with this reagent, they become colored to a light-greenish hue, or in some instances black, and the only substance which dissolves them is a solution of gall (Kühne), all showing that there is a peculiar and complicated structure between the limitans and the epithelium; but, unfortunately, we know very little as to the processes of development which result in these tissues.

Kuhnt has shown, moreover, that each epithelial cell of the retina has a covering to it like the cap that fits on the nipple of a gun, and it is probable that this cap is formed from the choroidal tissue just next to the vitreous or elastic layer. Of the development of this also we know nothing.

The histogenesis of the optic nerve is viewed from two distinct standpoints. According to the older authors, the stilus of the primary ocular vesicle represents the tissue of the nerve; but Schoeler has suggested another method for its formation, and says, with His, that the nerve elements are to be looked upon as connections which unite the retina with the brain, and that they come directly from the brain as offshoots, and spread out in the fundus of the eye at a later stage.

Lieberkühn insists that this connection of the brain and retina always exists, and especially in the case of the chick, from the time the primary ocular vesicle is formed, but that the stilus is only in connection with the outer layer of the retina. The fibers are produced by a selective process, and enter the globe at a much later period.

The stilus is cut through by the artery, and again closes so as to obliterate the defect; and by this process the continuity of the inner wall of the secondary vesicle becomes destroyed, and the fibers of the optic nerve, which commence at this time, enter the globe.

This entrance of the artery is only to be seen in mammalia; as, for instance, in birds the central artery is absent. Even in the case of mammalia, the vessel does not go directly through the nerve stem, but finds its way into the globe from the side. And at its first entrance the stilus is not touched (compare Fig. 4), but afterward we find it applying itself along the surface of the nerve, and entering it next to the globe, and also for some millimetres back. According to Lieberkühn, even after birth we often find that the central artery is by no means in the center of the nerve, but lies nearer the sheath, and is accompanied by a large tract of connective tissue, and that the vessel lies in its place as if it were a foreign body.

According to His, the whole tract of the stilus can only be looked upon as a kind of path through which the offshoots of the ganglion cells of the brain are to pass, for, since the optic nerve has no ganglion cells, its tissue in the beginning is only intended for the support of the nerve fibers which are to enter it at a later period. He bases his arguments on the fact that the optic-nerve fibers are not the product of cells or cell bodies, but are produced only by offshoots.

The radiatory condition of the cells of the primary optic nerve would speak against their nervous character, and also the fact that they were continuous with the outer layer of the secondary vesicle; this vesicle is only intended for the epithelial layer of the retina, and has no nervous function to perform. Moreover, if the cells of the stilus are to be transformed into nerve fibers, it would have to be by a most peculiar method, since in the beginning they are oval, and have their long axis perpendicular to the direction which an offshoot must take if it is to pass either toward the brain or toward the retina. If the cells did send off fibers, it should be in the direction of their axes, and they would then pass across the nerve tract and represent the supporting tissue rather than any nervous element.

Manz says that he has seen cells which lay in the optic tract having two long offshoots, and that the offshoots from two neighboring cells were connected. If this be the case, we might find that there are two kinds of cells in the stilus, and that, while one of them is to form the connective tissue, the other sends out fibrillæ which, being joined together, give a continuous course from the brain to the eye. These communicating cells are imbedded in a delicate network of fine fibers, which produce a flocculent tissue, and may come from the radial elements.

The question, whether the nerve elements are formed *in loco*

from the sprouting of cells which have their origin in the entoderm, the coalescing of these sprouts forming a continuous fiber, or whether the nerves are formed by offshoots of ganglion cells found both in the brain and in the retina, is still a point for investigation.

The sheaths of the fibers are very delicate, if they exist at all in an early condition, as they can not be distinctly seen by examination in hardened specimens. Manz states, however, that along the course of many of the fibers, after they had been well formed, he noticed a peculiar shining appearance which might be taken for a demonstration of the sheath, and also, in many places along the course of the fiber, they lost this shining condition when the nerve fiber was finer and more delicate. This would indicate that the sheath built itself by sections, and did not appear simultaneously along the whole course of the nerve fiber. We see, then, how easy it would be for the formation of these sheaths to go too far toward the globe and pass through the lamina cribrosa, giving the peculiar ophthalmoscopic picture with which we are familiar.

Whatever theory of the formation of the nerve fibers we take, we have the same difficulties to contend with. In the one case, if the nerve elements are to be formed by the offshoots of the original cells, or even from cells which are afterward found in the optic-nerve tract, how do they communicate with the retina and brain? or, if they are to be considered as offshoots from the ganglion cells of the brain and the retina, how do they become continuous with each other? We can answer neither the one question nor the other.

On the development of the macula lutea and the fovea centralis there is very little to be said, on account of the difficulty with which these portions are examined. Some authors contend that the fovea is the remains of the defect produced in the eye by the entrance of the artery, but, as Manz remarks, this is impossible, for the artery enters on the lower side, and the fovea is always to the outer side, and almost in an horizontal line with the papilla. Also, most recent authors state that the fovea centralis does not exist until after birth, and at a time when the artery defect is long since done away with.

The macula lutea, however, is formed much earlier, as in a case of a human embryo of eight months, described by Leveille, and one of four months, by Berres, it was distinctly to be seen. Their communications were only on the yellow color, and, consequently, our knowledge as to the histological structure of these parts is a minimum.

It is very difficult to imagine that the fovea centralis is produced by a thinning down of the tissue of the retina, which even in em-

bryos has quite a thickness; but, on the contrary, if this were not the case, it would certainly give some hint of its existence at an earlier stage than that at which it has been observed.

We have seen that the formation of the fibers of the optic nerve takes place at an early period, and there is no reason to believe that they are not formed homogeneously over the whole retina in the same manner; but again the peculiar arrangement of these fibers at the fovea centralis completely baffles all our ideas as to the late formation of the fovea, and forces us to consider this particular spot an exception which we do not understand. At the same time, we are obliged to consider that the fovea is formed at an early stage, either as such, or by some special action which, by a continual increase in development, results in the condition we know to exist in the adult. That the retina reaches its full thickness at this spot, and afterward becomes thinner, is an idea which we can not entertain.

The only explanation of the course the fibers take around the fovea is found in the greater development of the ganglion cells, and, consequently, a pushing aside of the nerves; but it is also the case that just at this point this layer becomes very thin, whereas near the periphery, according to M. Schultze, the ganglion cells lie eight deep, the one over the other.

The blood-vessels show the same tendency to bend around the fovea as the nerve fibers do, and send off the finest twigs toward it; but even these are not to be found in its immediate vicinity. Again, Manz adds that, notwithstanding all the peculiarities of this portion of the eye, the simplest explanation must be that the retina has always had a defect at this point, which is filled up later, but which never gains the same thickness as the rest of the retina.

If such a hole in the retina did exist, we could see how it would be possible for the nerve fibers and the blood-vessels to pass around it where they had tissue to support them. This is, however, not at all substantiated by any stage in development; but, if it were so, we should have to assume that a defect existed at the side of the papilla at a time when that which is produced by the cerebral artery had long since been closed up.

There is a case of an embryo three months old, described by Manz, in which he found a well-marked protuberance of the sclera, at the bottom of which the retina and choroid were more firmly attached than at any other part; and as he placed this fundus under the microscope he could see a groove running from the fovea to the papilla; but since the pigment was wanting, as it was in other parts, he did not consider the condition normal. It was also easy to see that the defect did not extend through the whole thickness of the

retina, but corresponded only to its inner or middle layers. It is an isolated case, however, and we are therefore not warranted in drawing any conclusions from it.

The theory that the fovea centralis is the result of the defect in the secondary ocular vesicle, which has never entirely been repaired, is also untenable, for, if we consider the position of that defect, which is conceded by all authors to be downward, and also that of the fovea, which is outward from the papilla, they are not at all in the same meridian of the globe, much less in the same direction, and the one can therefore have nothing to do with the other. Some authors also speak of a possible rotation of the globe in early foetal life; but even this would bring us no nearer the solution of the difficulty, since, if the globe were turned in some manner that we are entirely at a loss to explain, all portions of the fundus would thus be distorted, but they would necessarily retain the same relative position. H. Müller states that in the case of the chameleon a fovea exists, but that it lies to the inner side of the papilla, and in this case we should have to account for a left-handed rotation, and introduce an additional factor in comparative embryology, thus complicating things enormously.

Since neither of these views as to the fovea has the least grounds upon which it can be advocated, we are left in absolute ignorance of any clew to this part of development, and it is so much the more to be regretted on account of the extreme delicacy and paramount importance of the fovea of man.

THE OPTIC CHIASM.

In discussing this peculiar portion of the eye, we are again thrown back to the mode in which the fibers of the optic nerve take their origin, since without a special investigation of this we should also be in the dark as to the production of the chiasm. We can not entertain the idea that nerve fibers are present at a time when the secondary ocular vesicle is attached to the brain by its stilus (tractus opticus). The tractus is made up of oval cells, which are placed radially, as we have already seen, and stand in connection only with that layer of the secondary ocular vesicle which is to produce the pigment layer, a portion of the globe which can have nothing nervous in its structure or nature. According to Kölliker, at the stage just prior to that at which the hollow tractus opticus commences to be made solid (filling up the space between its walls) a system of very fine fibers (axis-cylinders) is seen to push out from the inferior lateral portion of each thalamus—one for each eye. This strong bundle of axis-cylinders is also easily traced to

the superior-posterior portion of each thalamus, where it spreads out and becomes lost in the gray substance of this vicinity. At the base of the brain both tracts run anteriorly and diagonally toward each other and cross near the median line, where the fibers are more or less interwoven, and afterward bend toward the bulbus for which they are intended respectively.

Therefore, at a time when the tractus is still hollow in the middle, nerve fibers make their appearance, but at first near the periphery of the tractus; after the solidity in the middle has come to perfection, they are found in all parts of the optic nerve. A section through this part will then show the whole stem surrounded by a system of cells from the mesoderm, while in the body of the nerve a radiating system is still preserved, which, however, has spaces left through which the new-formed axis-cylinders pass. These, too, are accompanied by cells which follow each other in rows parallel to the axis of the nerve. These young nerve fibers pass on from the brain toward the globe, penetrate the inner layer of the secondary ocular vesicle, and extend along the inner surface of the retina; and they take up a position where they represent the optic-nerve fibers of that organ. As they enter the globe there is generally a conical depression in the inner layer of the secondary ocular vesicle corresponding to the place where the elevation of the papilla is found in after-life.

The central artery passes in through the apex of this cone, and, if the embryonic configuration of these parts remains, we have the physiological excavation, easily recognized with the ophthalmoscope. All the longitudinal supporting tissue of the nerve ceases as the fibers pass into the interior of the globe, and we therefore have in the primitive conditions of the retina the layer of optic-nerve fibers forming the external layer of the retina and lying next to the periphery of the vitreous.

Kölliker, W. Müller, and His are all of the opinion that the above-described condition is the real state of affairs, and, therefore, that the foetal tractus opticus represents only the supporting portions of the nerve, and that the fibers have a centrifugal origin, and commence at the brain and pass outward to the eye.

Kölliker says also that he finds, in studying the development of the retina, that in the earlier stages he can demonstrate the existence of nerve fibers only on the posterior portions of the fundus. This condition was found in the rabbit at the end of the sixth day. At the close of the seventh they had reached midway between the papilla and the pars ciliaris, while at the end of the eighth they extended up to this last-mentioned locality.

We see, therefore, that, in the beginning, the probability is that we have no nerve fiber at all, the tractus opticus representing only the connective-tissue support; shortly after, delicate axis-cylinders shoot out directly from the brain, cross each other at the base of the brain, where they become partially interwoven, and continue their course toward the eye. They then penetrate the internal plate of the secondary ocular vesicle at the position of the papilla, and develop regularly from this point over to form the external layer of the retina.

At an early stage we find the axis-cylinders from the brain surrounded by rows of cells, which run parallel with them and afterward form the substance for the sheaths and the tissue from which the lymphatics of the nerve body are produced.

Kölliker makes a very beautiful comparison between the tractus opticus and the radices nervi olfactorii (see "*Entwicklung*," p. 692), the nervus opticus and the nervus olfactorius, the primary ocular vesicle and the bulbus olfactorius. The difference between these two apparatuses, he remarks, lies in the fact that in the case of the olfactory the point of origin is external or in the mesoderm, and the growth inward toward the brain, while the visual commences in the brain itself and advances toward the surface—that is, the one is centripetal and the other centrifugal.

AN EVOLUTION ASPECT OF THE HEALING OF WOUNDS, WITH DEDUCTIONS AS TO TREATMENT.

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THE design of this essay is to consider some phenomena of repair from the standpoint of the evolution hypothesis as constructed by Mr. Herbert Spencer, and to show the bearing of this doctrine on the treatment of wounds. Before attempting to discuss the proper subject-matter, it will be well to glance at the chief kinds of reparative action throughout the animal and vegetable kingdoms.

The term "repair," as ordinarily used, covers very dissimilar processes. From the present point of view we may discriminate two orders—the simple or general, and the compound or special. The order of simple repairs comprises, 1, the repair attendant on all functional activity or waste; 2, the phenomena seen in the re-production of lost parts, as the repair of crystals, the restoration of

a polyp's head, or of a human nail, and that kind of repair most frequently displayed by plants in the union of wounds. Compound repair will comprise, 1, such special renewals of structure, histological or molecular, as the recovery from diseases necessarily implies, and, 2, the special methods of wound-repair.

Of the two classes in the order of simple repairs, the first comprehends physico-chemical processes concomitant with every manifestation of life, all expenditure of force, as vital or functional activity, being the correlative and equivalent of an antecedent integration. Although this species of repair is less evident in plants and the animal forms most akin to them—for the former are accumulators rather than expenders of force, and the latter are inactive—it must still be regarded as a simple primordial function.

The power to regenerate lost parts is not universal, being mainly evinced by creatures and structures which are simple in their organization. This class includes all those reproductions of members and tissues exhibited by the lower animal and vegetal forms, and the reproductions of simpler structures in the more complexly organized. It should be marked that here there is merely a repetition of the tissues removed by injury or disease; there is no differentiation in the new material to meet new and special exigencies. In its essence this is probably allied to interstitial or general repair. For the arguments favoring this view, the reader is referred to Mr. Spencer's "*Principles of Biology*," and Appendix, second edition.

The reparative processes included in the second order may be taken as differentiated forms of those included in the first. The inco-ordinated functional activities recognized as disease have the disintegration of special tissue elements for their physical counterparts, as is affirmed by the morbid products of disease, either remaining within the body as radical changes of structure, or eliminated as abnormal excretions. For example, the specific symptoms clinically grouped as those of scarlet fever are the gross and palpable expressions of the special molecular dissociations going on in the organism. If, then, health be restored according to the normal physiological forces of the body—and this undoubtedly happens in every case of recovery from disease of the class exemplified—we are obliged to infer that the involved integrations are a special kind of repair. In the language of evolution, such activities are direct adaptations of the organism to disorganizing forces in the environment, from which conception issue interesting and important corollaries. Like all other adaptations, these must be subject to the laws of natural selection and heredity. Those individuals which show the most suitable adjustment to the morbid force, either by great func-

tional stability, or other favorable variation, or efficient repair, will be the least likely to succumb to its proximate action or remote sequelæ, and will transmit these peculiarities to descendants. Whatever the nature of the morbid influence, if it be in force with much constancy during the life-history of a race, natural selection will single out not only those to whom it is innocuous, but those able to oppose it in any of the varied physiological ways by which disease is successfully combated. From the survival, therefore, of the most life-conserving of these functional adaptations, and their transmission from generation to generation, it will result that, in respect of certain diseases, there will become organized in the species and race typical forms of physiological reaction such as the physician every day witnesses.

Thus, for two reasons, as having the exchange of special units for their physical bases, and as falling under the modifying influences of natural selection and heredity, these so-called pathological processes are placed in the category of special repairs.

The special methods of wound-repair—the second class in the second order—are characterized by the development of specialized functions and structures.

Contrasting the two orders, the first includes simple undifferentiated functions common in their ultimate nature to all organisms, examples of simple organic evolution; the second includes differentiated and specialized functions, examples of compound organic evolution.

In contemplating the functional changes induced by an ordinary incised wound of muscular and vascular tissues, we observe that the blood-vessels, a moment before serving to transmit and regulate the supply of blood, now, by contraction and occlusion of their divided ends, assume what is for the nonce the equally important office of stopping its leakage; that the muscular and other tissues, under the stimulus of the mechanical injury, unite with the co-adapted surface by the organization of a blastema, or by the development of a granulation tissue, and show a responsive adjustment of their physiological rhythms to entirely new conditions. These changes, conveniently regarded as extrinsic functions superadded to intrinsic functions, are the phenomena whose evolution we have now to unfold. This could best be accomplished by tracing inductively the gradational modifications of wound-repair throughout organic species, and by deductively considering them as the products of forces known to be constantly in operation in the conditions of wounds; but we possess few data that will serve as a comparative pathology of injuries of this class, and are hence mainly

restricted to the latter line of inquiry. The effects of wounds in plants, it is true, have been extensively studied, but here repair for the greater part is feeble and imperfect.* In the absence of similarly replete knowledge of healing processes in the animal kingdom, it will suffice to notice that plants furnish examples of the two orders—the simple and the compound. Quoting the case cited in the address by Sir James Paget, to which reference has just been made, we learn that “a fir-tree, fifty years old, had a large piece of bark stripped from its trunk. The wound was not dressed or guarded; the outer layer of the exposed wood died as usual, and then every year the successive annular growths of new wood and bark extended a little farther over the bared place. In one hundred and fifty years these growths met and coalesced, and the wound was covered in. When the tree was felled and cut through at the injured part . . . there was still a cavity between the old wood and the new.” This illustrates the simplest form of wound-repair. Unlike the special kinds marked by the development of a true and differentiated reparative material, either as cork or callus, it appears to be merely the general growth of the tree locally changed in direction by a change in the relations of the growing structures, and may be understood as the direct result of external agencies. The outer layer of wood, denuded of its protecting bark, is destroyed by the chemical forces of the atmosphere, and future growth from the cambium proceeds in excess in the directions of least resistance—i. e., toward the center of area of the injured surface. In one hundred and fifty years the overgrowths coalesce. This simple explanation appears to be sufficient. That selective action would be a co-operating factor is improbable, for neither the individual nor the species could materially profit by such repair, a supposition strengthened by the clew it affords to the general defectiveness of reparative processes among plants. The loss of a branch or leaves may not even diminish vitality or reproductive power, compensation being usually secured by increased growth of other branches; but the breaking of a limb or mutilation of an organ may cause, directly or indirectly, an animal's extinction. Hence natural selection will tend to the establishment of a more effective repair of injuries in the animal kingdom.

Apparently, the ways of healing fall under three divisions, viz. : immediate union by direct growing together of opposed surfaces; mediate union by the effusion and organization of lymph; and mediate union by the development of granulations. Between the

* See an address on “Elemental Pathology,” by Sir James Paget, “British Medical Journal,” Oct. 16, 1882.

first and second, however, the difference is probably one of degree only, the formation of new tissue in the one case being more vigorously carried on than in the other. The end, indeed, is the same in all—the binding together of the parts by connective tissue.

The very earliest reparative actions, beginning in structures not yet vascularized, would be mainly direct physical and chemical consequences of incident forces. A severance of structural continuity must be followed by an exudation of the fluid contents of the ruptured cells, and a further general osmotic transudation in the directions of diminished resistance—over the exposed surfaces. The watery constituents evaporating, the inspissated fluid would form a protective covering for the naked cells, serving to guard them and the individual from the chemical, physical, and organic forces present in the medium. When these functions were efficiently performed, this efficiency natural selection and heredity would seize and perpetuate. Such changes constitute the first stage of repair in every wound, whether of non-vascular or vascular tissues. But before the exuded plasma can subserve its office as a protective, it must be brought into equilibrium with the forces of the medium. Unstable and easily decomposed, it must first acquire due stability. Until this has been effected by direct and indirect adaptation, the evolution of reparative tissue must remain in abeyance. The physical part of the direct process will be chiefly desiccation of the plasmic layer by aqueous evaporation, for the inverse relation subsisting between molecular mobility and chemical stability is specially true of albuminous compounds. Decomposition is prevented in proportion as the molecular oscillations are restrained by drying or reducing the temperature. As we shall shortly see, this point is of cardinal importance in the treatment of wounds. Beneath the blastema commence the new formative processes. These, again, are initiated by the force which divides the structural continuity. Where the mechanical resistance and tension of the cell-contained fluid are least, at these places will the circulation and vital exchanges be most active. Again, too, these operations will be assisted by evaporation. The blood will determine to those parts where aqueous loss is greatest. During the evolution of a vascular system, the crude reparative material thus wrought will, by continuous differentiation, finally be fitted for making the parts whole. Natural selection would take a large share in this evolutionary process. Animals whose wounds were not repaired would strive, in the struggle for existence, under a heavy disability. The non-union of muscles torn and limbs broken during encounters with

prey and enemies would lead to incapacity for further encounters and a dying off without issue; while others, whose injuries were repaired, would escape the direct hindrances and indirect dangers to life entailed by unhealed wounds, and would reproduce their kind. Sexual selection would also be an indirect factor. The deformities following injury are greater or less as the completeness of repair; and the pairing of some creatures would clearly often be by this determined, both in the battle for mates and by the exercise of that æsthetic instinct which has been handed down with increased strength to our own genus. Also, survival of the fittest and heredity, aiding direct adaptation, would speedily insure the advent and perpetuation of those peculiarities of vascular structure by which hæmorrhage is arrested from divided vessels.

Any approach to a precise knowledge of the share taken by direct adaptation in originating the specific tissue of repair—that is, connective tissue—is, perhaps, not at present attainable. That physical forces have been largely instrumental in the genesis of granulations is to be inferred by examining the histological lineaments of a granulating surface. If the reader will turn to the figures at page 126 of Rindfleisch's "*Pathological Anatomy*," or to its fac-simile in Holmes's "*System of Surgery*," he will there find portrayed all that is needful for this purpose. To the right in the figure the growth is naturally divided into three distinct cellular strata. As described by Mr. Herbert Spencer, these layers are invariable incidents in the differentiation of outer and inner tissues, both in plants and in animals. The middle stratum of indifferent tissue develops externally into an epidermic layer; it does so by virtue of the inheritance of forces organized in progenitors by outer actions. Internally, it develops into a connective-tissue layer; it does so by the inheritance of forces organized in progenitors by reaction within the organism. "In plants, the forces evolved from within the organism and the forces falling on it from without must have some place between center and surface at which they balance; and at this place will lie the unstable protoplasm that develops outwardly in a substance which is stable in the face of outer forces, and inwardly into a substance which is stable in the face of inner forces. So, in animals, we may regard this universally present layer, whence epidermis grows outwardly and connective tissue inwardly, as similarly the place of equilibrium between these antagonistic forces." These layers may also be observed in other organs and appendages where external and internal conditions are unlike, as in hair, nails, and mucous membranes; and it is an interesting fact, giving much additional force to the hypothesis, that in

the hair-follicle, which is first an involution and then a revolution of the dermis, *sic* layers can be made out.

The most conspicuous peculiarity of granulation tissue is its exuberant vascularity. Hence its rapid growth and relative instability. As the spherical cells of granulations form into the more stable spindle-shaped cells of connective tissue, the hyperæmia diminishes. Not improbably the physical contractions of the latter tissue, by closing the blood-channels, speed the differentiation. That union by connective tissue and union by granulations were evolved during the same evolutionary period seems probable, if we reflect on the varied conditions possible in different parts of the same wound, and in different wounds of the same individual. The deeper parts of most wounds are fitted for union by direct healing, owing to the nearer approximation of the opposed surfaces in these situations; while the superficial parts, unless aided by art, are more favorably conditioned for the growth of granulations. As every surgeon knows, it is not unusual to find a wound healing in both ways at the same time. And the manner of union in different wounds will depend on differences as to their nature, position, direction, etc.

Thus far have been considered the chief agencies in the evolution of *structural* expediences to meet the consequences of traumatic injury. We have now to deduce, and afterward exhibit in their relation to surgical therapeutics, some general truths concerning adaptations of another order which the hypothesis of evolution requires to have become established. These are the adjustments in the physiological rhythms of wounded tissues to past and present environing forces. It was seen, when tracing the first steps in the evolution of reparative tissue, that, unless the disunited cellular elements and effused fluids were stable before the organic and inorganic forces of the medium, structural modifications to repair the injury were impossible. The former is not only ancillary to the latter, but a condition-precedent of its existence. While decomposition ensues from contact of inner tissues with outer forces, repair is suspended, as the sloughing and suppuration of wounds very well illustrate. Therefore the plasma and exposed tissues will undergo physiological changes responsive to the constituent forces of the atmosphere. First will take place adjustments to its normal chemical and physical elements. These adjustments, answering as they do to general and constant external forces, will become general and constant among individuals. Next will arise adaptations to the variable and adventitious components of the atmosphere having a constancy proportionate to the constancy of the components. Other-

wise stated, by the laws of evolution the molecular constitution of wounded tissues should on the average fit them for contact with a normal atmosphere and certain moderate deviations, just as the entire organism is, on the average, adapted to circumscribed conditions. Wounds not being essential, but accidental, accompaniments of life, the necessity of these important corollaries is not immediately perceived. Their necessity becomes manifest only on bearing in mind how it can rarely have happened to any creature, alike among the lower animals and among ourselves, to have passed through life without the blood and inner tissues having been exposed by injury to the atmosphere and its contents, and how each individual is the representative by inheritance of an immeasurable line of ancestors who have survived the exposure. Our very existence seems to contradict the widely entertained belief that in the atmosphere are the agents most inimical to life and the healing of healthy wounds.

Simultaneously with the above mentioned there must be evolved by the same factors functional differentiations corresponding to organic and inorganic matters existing in the general environment, and most liable to contact with wounded surfaces. This we see instanced in the union of wounds among domestic animals, where repair is effected beneath a crust formed by dried secretions and adhering foreign bodies. Now, what degree of correspondence between these "internal adjustments to external relations" may be anticipated in man? If we remember that in this way wounds are accessible to substances of the greatest heterogeneity, among the chemical agents being animal and vegetable products, often in various stages of putrefaction and made chemically active by solution in water; and if we note the want of uniformity in their presence, we shall presage but few inherited functional habituations, but rather, knowing the chemical potency of the organic products, many violent or inco-ordinated reactions. These inferences, presently to be sustained *a posteriori*, follow directly from the law that the functional and structural attributes fitting an organism to its circumstances are consummated by the frequency of ancestral and individual intercourse with surrounding forces.

Lastly, a favorable reaction of the wounded organites to the blood poured out upon them must become established in the course of evolution. Without this, the functions of structures nourished only by special elements of the blood presented to them after a special manner must be greatly disturbed or arrested by contact with blood in a free state. Here the degree of correspondence will again vary with varying circumstances. Where the quality of the

blood deviates considerably from the normal, owing to the application of chemical substances to promote union, or from other causes, or where the quantity is too large to be wholly absorbed, its presence will interfere chemically or mechanically with the process of healing, and new functional changes will be set up. The inference drawn is that extra-vascular blood should not, within medium limits of quantity and quality, induce reactions unfavorable to the best kind of repair. The healing of wounds under a scab may be pointed to as illustrative and confirmatory.

It remains to evolve from these conclusions the principles of a scientific treatment. At the outset, let it be understood that we are concerned only with newly inflicted wounds—wounds whose natural progress toward repair has not been interrupted by superinduced pathological states. From our present standpoint, the repair of wounds is a constructive process, as strictly physiological as the recuperation of fatigued muscle.

We have found, by applying the principles of evolution to the special phenomena under consideration, that with average individuals the primary union of wounds will not be retarded by the atmosphere if this be kept within moderate variations from a mean. Hence, our first aim in treatment should be to avoid extreme changes in the atmospheric constituents by the measures which practice may demonstrate as most expedient. The soundness of this teaching is indorsed by experience in the general solicitude shown for good sanitary investments. Yet it is not infrequently overlooked that the very means employed to obtain uniformity in the surroundings—as by the use of antiseptics—are perturbing by reason of their unnaturalness. The prophylactic use of any chemical substance foreign to the tissues must, aside from other changes, make the normal reparative actions slower than they would be otherwise; though, of course, this and the other effects will differ according to the chemical and physical relations of the agent to the blood and tissues. The relatively slow healing under the use of the spray—which is generally admitted—is a fact in evidence. Whatever may be its true physiological explanation, this is easily comprehended as a biological phenomenon. In the absence of an internal relation corresponding to the new external relation, the normal physiological rhythms are disturbed, and a readjustment is required which involves a longer time.

It has been seen that an important function must be assigned to the layer of thickened lymph forming a pellicle on the external surfaces of structures dissevered by mechanical injury. Its chemical and mechanical properties and communion with environing forces during evolutionary time specially fit it to protect the less

stable cells which lie underneath. One of the tenets, then, in any consistent theory of treatment, should relate to a fulfillment of the conditions required for the discharge of this function. The wound should remain open until the surfaces have become glazed, and all interfering applications should be scrupulously withheld. The desirability of this procedure may be enforced by another consideration. Every pathological state is the effect of some incident force to which there is no co-ordinated response in the organism. It follows, therefore, since the organic elements of the atmosphere are inert when kept without moisture, that to preserve the integrity of the dried plasma is greatly to increase the adaptation-range of wounded parts, is greatly to lessen the liability to diseases caused by such elements.*

A further corollary from the preceding deductions may be applied in the present relation. That the extraneous matter conventionally designated "dirt" is more likely than not to overthrow the physiological balance of structures subject to the reparative process has been shown *a priori*, and the universally accepted maxim which insists that cleanliness is essential for the successful treatment of wounds is proof *a posteriori*. Therefore, the sedulous observance of this maxim is more than ever to be exacted, and countenance from an unexpected quarter is given to the growing belief that antisepticism owes much of its success to the cleanliness of its methods. Doubtless the instinctive licking of wounds by the lower animals has for its purpose the removal of substances detrimental to the healing process. To deal with the specialties of treatment in this branch of surgery is beyond the prescribed scope of this paper. All that is essayed is to put on a secure basis some very general principles, and to correlate, if possible, the inductions from surgical experience with the inductions of biological philosophy. Perhaps it ought to be pointed out that Nature's method of arresting hæmorrhage pleads urgently for torsion as opposed to the ligature.

Can these dicta of evolution as to what should be done and what should not be done in the treatment of wounds be supported by an appeal to results? We may pass over the readiness with which wounds heal among animals in a "state of nature," for objections to the comparison may not unfairly be raised. Of greater weight is the increasing favor accorded, by eminent surgeons on both sides of the Atlantic, to the method of dry-dressing, which, more nearly

* Certain remarks made by Professor Lister at the International Medical Congress of 1881 are so pertinent to this matter as to call for quotation. They were as follows: "As recent experiments had shown, serum, clear or bloody, is a very poor soil for the development of germs from contact with air-dust, and blood-clots are still more sterile; indeed, it is very difficult to make them grow or develop at all unless diluted with water."

than any other, satisfies the theoretical needs here laid down. Fortunately, however, a verification beyond cavil is at hand in an instructive but disregarded paper, by Dr. McVail, entitled "Ten Years' Surgery in Kilmarnock Infirmary," published in the "British Medical Journal" for July 23, 1881. Therein Dr. McVail institutes a comparison between results following the dry-dressing and antiseptic methods, and, analyzing the records of Dr. Borland's practice, by whom the method of dry-dressing was arrived at empirically after fifty years' experience, he reveals the "*best general results, covering a lengthened period of time, that have ever been recorded in the history of British hospital surgery;*" and, confining the report to the last $2\frac{1}{10}$ years of this service, he tells us of "421 cases, 90 operations (including 23 major amputations), 45 injuries, 52 abscesses, and 7 compound fractures, without a single fatality from any cause." Note, now, what is, perhaps, the most distinctive feature of the treatment pursued by Dr. Borland, and recall the second principle of treatment here reached deductively. "No water or other liquid is applied to the surface; after all appreciable vessels have been tied, *the flaps are kept open until bleeding has entirely ceased, and the whole surface has assumed a glazed appearance from exposure.*" For details, the reader is commended to the paper itself. That this pre-eminently successful mode of treatment should essentially be that which the theory of evolution demands, is in every way a significant and unequivocal coincidence. The union of proofs starting so independently (the foregoing conclusions were thought out antecedently to the publication of Dr. McVail's article) makes strong the conviction that only on these lines can we hope to found a rational management of wounds.

AN UNUSUAL RELATION BETWEEN THE PLACENTA AND THE MEMBRANES.*

BY HENRY J. GARRIGUES, A. M., M. D.

A FEW days ago I assisted a lady in her third confinement. In the first, she said, she had had post-partum hæmorrhage, and in the second the adherent placenta was artificially removed three quarters of an hour after the birth of the child.

She had gone her full time. The first two stages of her present labor did not present any abnormality. Pains began at four o'clock in the morning. When the os was fully dilated I punctured the

* Read before the New York Obstetrical Society, April 4, 1882.

bag. The liquor amnii was of a dark dirty-green color, as if mixed with meconium, although the foetus seemed to be in most excellent condition. The child was born half an hour later, in the right occipito-anterior position. It was a well-shaped boy, weighing ten pounds.

The uterus contracted well, and slight pressure was kept up all the time. The after-birth not coming away at the end of twenty minutes, I explored and felt the posterior half of the placenta lying loose in the vagina, the foetal surface downward. I tried to take it out by moderate pressure backward just in front of the insertion of the cord, and moderate traction on the latter, but, finding that the placenta did not yield, but that the cord even began to crack, I desisted from further attempts at taking it out by this method, and returned to expression, using a little more force than I am in the habit of doing. Three quarters of an hour after the birth of the child the secundines were expressed, so that the whole placenta and part of the adherent membranes lay on the couch, outside of the

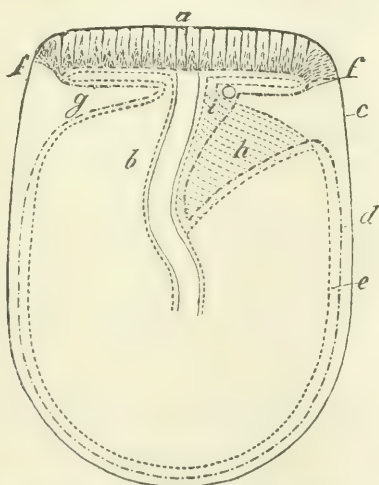


FIG. 1.—*a*, the placenta; *b*, the cord; *c*, the decidua; *d*, the chorion; *e*, the amnion; *f, f*, the place where the decidua had separated; *g*, the fold formed by the amnion and the chorion on the placenta; *h*, the fold attached to the cord; *i*, the umbilical vesicle.

genitals. I now rolled the membranes in the usual way, so as to form a kind of rope, and they came away pretty easily; but I noticed that there was a little more resistance than usual, and the rope broke before I had got all out; but, getting hold of the broken-off end, I extracted without difficulty a piece not quite of the size of a hand. There was no unusual loss of blood.

When I came to examine the secundines, I was struck by a very remarkable relation between the membranes and the placenta. (See Fig. 1.) I shall first strictly limit myself to the facts in the

case, reserving all commentary, for, while I claim the facts to be correct, I can easily imagine that different theories may be built on them.

The placenta measured twenty centimetres in diameter, the cord sixty-four centimetres in length, and both were of normal thickness. The cord was inserted centrally. The membranes which had contained the child did not adhere to the edge of the placenta, but started from the point of insertion of the cord on this organ. Measured in a flaccid condition, hanging down around the cord, this bag was forty-one centimetres long. It was easily separated into two layers. The inner layer was covered with the epithelium characteristic of the amnion, a single layer of flat polygonal cells, which were in a state of fatty degeneration, as proved by numerous oil globules found in their interior. The outer layer consisted only of connective tissue, which, in some places, contained a few round or oval cells, and many fat drops. In other places some loose shreds were found on the outer surface, which showed a greater number of similar cells.

At the placental end of the cord the sac was seen to form a kind of triangular mesentery, embracing the first eleven centimetres of the cord, and attached to the sac to a similar extent. The two layers forming this fold were not united, so that the finger could be pushed in between them up to the cord; but at the lower end (i. e., nearer to the fœtus) they grew together, so that a pouch was formed between the mesentery and the cord, admitting half the length of the index. At the placental end of the cord there was found in the interior a small clear vesicle of the size of a pea (the umbilical vesicle).

The placenta presented the common shining, smooth foetal surface, and rough maternal surface. The edge looked ragged, as if something had been torn from it, and in one place even a small square piece of membrane about two centimetres in either direction was found attached to it. This membrane had no epithelium, and was composed of an inner layer of connective tissue, and an outer layer containing many round and oval cells. From the foetal surface two membranous layers could be dissected off. The most superficial was exceedingly thin, the deeper one comparatively thick, and bound by isolated fibers to the placental tissue. The foetal surface had no epithelium.

I shall now try to explain this strange specimen. I have in vain looked for anything bearing upon the subject in the books at my command. The amnion sometimes forms folds which may adhere to the fœtus. In this case there were no adhesions to the

foetus. Cazeaux once had a case in which the membranes were separated from the placenta throughout by extravasated blood.*

The chief point of interest is that the sac in which the foetus was placed, and which contained the amniotic fluid, was not attached to the circumference of the placenta, but to its center, all around the insertion of the cord. Microscopical examination showed that this sac was composed of the amnion and the chorion, but had only scant remnants of decidua attached to it here and there. On the other hand, the portion of membranes found attached to the edge of the placenta was composed of decidua and chorion without amnion, and the foetal surface of the placenta had no amniotic epithelium. I suppose, therefore, that the placenta all around was separated, after the birth of the child, from the decidua, which remained attached to the interior of the womb. Secondly, that the amnion and the chorion together formed a fold from the circumference to the center of the placenta, which fold on one side was open, and formed the meso-cord described. Such a folding was, perhaps, brought about by accumulation of fluid between the chorion and the decidua after the formation of the placenta.

At first I supposed that the amnion alone partook of the folding; but then we should find, on the sac surrounding the foetus, the line where the chorion had been torn, and there was no trace of anything of the kind. I think, therefore, we must conclude that the chorion remained close to the amnion all the way, and was folded with it so as to cover the foetal surface of the placenta twice, as well as the amnion. This supposition is corroborated by the fact that two layers could be dissected from the foetal surface of the placenta. The outer one was very thin, and this I take to be the chorion; the inner was thick, and this I explain as being the two layers of amnion grown together by their epithelial surfaces.

For comparison's sake, I have examined a fresh normal placenta. (See Fig. 2.) By pulling on the cord, the amnion was not separated from the placenta. On the other hand, by beginning at the circumference it could easily be separated in one piece up to the insertion of the cord. It proved to be a very fine transparent membrane, without any layers, entirely different from the thick sac springing from the center in the above-described case. At the insertion of the cord the amnion was fastened, so that it could not be followed up from the placenta to the cord.

* Klob's "Pathologische Anatomie der weiblichen Sexual-Organen," Wien, 1864, p. 552.

The chorion could only be separated from the decidua on the membranes as far as the edge of the placenta. Here both merged into the placental tissue—the decidua outside, the chorion inside.

The chorion on the placenta could not be separated into different layers, nor separated from the placental tissue.

It appears from this comparison that there were very marked differences between the two placentas, and that the one above described could not be a normal one from which the amnion had been torn.

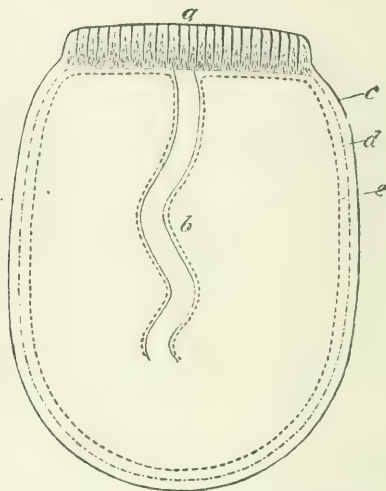


FIG. 2.—The references are the same as in Fig. 1.

First. The normal membranes are easily separated into three layers, microscopical examination of which shows them to be the amnion, the chorion, and the decidua. In the case described there were only two layers—amnion and chorion—and small shreds of decidua.

Second. The normal placenta is covered with epithelium; the one described was not. This would be the same if the amnion had been torn from the placenta, but that this was not the case is proved by the third circumstance.

Third. When the amnion has been torn from the normal placenta, nothing more can be dissected from it, while on the above-described placenta two layers could be drawn off besides the bag hanging from the point of insertion of the cord.

The lying-in period of the patient did not present any abnormality whatsoever. Although we looked carefully for them, at no time were shreds of membranes discharged, and the lochia were normal in quality and quantity.

CASE OF INTUSSUSCEPTION OCCURRING IN A CHILD
NINE MONTHS OLD, RELIEVED BY INJECTIONS
OF WATER, BY CHLOROFORM, AND MASSAGE.*BY W. R. GILLETTE, M.D.,
PHYSICIAN TO BELLEVUE HOSPITAL, ETC.

ON May 15th I was called by a client of mine, residing in the upper portion of the city, to see a male infant nine months old, supposed to be suffering, as the father stated, from some inflammatory trouble of the bowels. On arriving at the house, I was told that the child had been somewhat constipated for three or four days, but that it went to bed perfectly well the night previous. At eleven o'clock the parents were aroused from their sleep by the cries of the child, and all efforts to pacify it were unavailing. It rolled about the bed in every possible way, and seemed utterly incapable of remaining quiet for one moment. The legs were drawn up, and there was every indication that intestinal trouble was present. Imagining it to be a case of wind colic, the family treated it with domestic remedies unavailingly. Becoming alarmed at the continued agony of the child, a neighboring physician was sent for. He came in shortly after eleven, examined the child, and, thinking its symptoms were mainly due to constipation, ordered it an enema of warm soap-suds, with warm applications over the bowels. The parents did as directed, but there was no result from the enema; on the contrary, the child seemed to be getting worse. The doctor was called again at three o'clock. He made another examination, and thought the child should be quieted, and therefore gave opium. It remained quiet under the influence of opium during the night, but in the morning it again tossed about in pain. The doctor saw it the third time, and again he administered opium. During the course of the morning it vomited, and vomiting occurred more or less all day long, the child even regurgitating water. No movement of the bowels had taken place.

When I was called, at six o'clock in the evening, it was evidently under the influence of opium, and was lying in a semi-conscious condition in its mother's arms, with high fever, the temperature being 104° . Its garments were stained with a bilious-colored fluid, evidently the result of vomiting. The mother told me that during the day another injection had been given, with the result of bringing away simply a little bloody mucus. On examining the child, after eliciting the foregoing facts, I found what I considered to be a mass in the region just to the right of the umbilicus. This, coupled with the vomiting, the constipation, and the slight bloody discharges, made me quite positive that the child was suffering from intussusception; but, not feeling entirely certain, I ordered a dose of castor-oil to be administered, and poultices of flaxseed with camphorated oil to be laid over the abdomen, and instructed the parents to send for me in two hours if the oil did not operate. At 8.30 the father came for me again, and stated that the child had had no movement of the bowels. I immediately went with him, sent for the physician who had seen the child in the beginning, and made a re-examination, in which all the facts stated above were again gone

* Remarks made before the New York Obstetrical Society, May 16, 1882, with additions.

over, and, in addition, made a digital examination per rectum, to see if I could feel any portion of the invaginated gut. A discharge of mucus and blood followed. The doctor was quite convinced with me that intussusception existed, and I immediately prepared to reduce the mass if possible.

The gut had been invaginated almost twenty-four hours. I instructed the doctor to give chloroform. The father held the child, head downward, and I commenced to throw in, by means of a Davidson's syringe, warm water. The water, after three or four bulbfuls were thrown in, was rejected. This was repeated constantly. It seemed to be impossible to get the gut to retain any quantity of water whatever. Finally, I told the doctor to knead the mass at the right of the umbilicus at the time I made my water injections, and see what effect that would have. The child still being under the influence of chloroform, I repeated the injections, and the doctor carefully used massage over the mass, as directed. I was surprised at the effect which followed. There was immediately a roar of rushing wind and water, and a large amount of water passed in and was apparently retained. Feeling quite sure that I had reduced the mass and overcome the difficulty, I directed the child to be laid down, the clothes to be changed, and warm bottles put around it, to rally it after the ordeal which it had recently experienced. The result was as I had imagined—namely, that the gut had been reduced, the child had its bowels moved in a short time, and finally made a rapid recovery.

This is the third case of intussusception in infants which I have seen, and which I have fortunately been able to reduce by the means above related—namely, the *administration of chloroform*, injections of warm water, and the application of *massage to the mass* felt through the abdominal walls. I think that these cases, from the philosophy of their condition, and the necessary measures for relief, are best managed in the way I have indicated. I know in two other instances, in which I saw and advised this treatment, reduction was utterly impossible under the other methods tried until *chloroform* was administered and *massage* applied. The children in each of these cases have been held while struggling, and the injections forced into them against all voluntary and involuntary efforts which they could make. I deem the administration of chloroform as almost absolutely necessary in these cases. The reason is not difficult to find, inasmuch as, while it gives us such perfect control of the patient, it also eliminates the elements of involuntary muscular spasm in the intestine and voluntary muscular resistance, such as must be involved in the muscular walls of the abdomen. Moreover, massage is a powerful adjuvant to the hydrostatic pressure of water in these cases. In the first two cases that I saw, the obstruction had not been overcome until massage had also been employed.

The three cases that have come under my observation have yielded so readily to the method of reduction stated—though in one

case the gut had been invaginated forty hours, and in another quite three days, although attempts at relief had been practiced by injection alone—that I wish to state my experience, and compare it with the results in the experience of other members of the society.

Editorials.

THE NATIONAL BOARD OF HEALTH.

MANY of our readers are doubtless aware that recent Congressional action has cut down the appropriations for the work of the National Board of Health to such an extent that its sphere of action is decidedly curtailed. Among other things, the publication of the weekly "Bulletin" has had to be suspended, and it seems unavoidable that certain investigations in progress by the board, as well as others in contemplation, will have to be given up. Of course, all this is to be regretted, but we are unable to see that the medical profession has any just cause to feel specially aggrieved in the matter, as some of our contemporaries seem to consider. There are two good results to be hoped for from such an organized study of sanitary matters as the board has charged itself with: 1, increased protection of the community against preventable disease, and, 2, the enrichment of medical science. If the nation chooses to dispense with any prospective benefits under the first head, we, as physicians, must feel, together with all public-spirited citizens, that it has acted parsimoniously and foolishly, but we can not rightfully consider that we have been any more wronged than all other classes. As to the second form of benefit, that likely to accrue to the science of medicine, while we may well regret the loss, it behooves us to remember that ours is not a paternal government, and that in reality it has no constitutional right to spend one dollar for the advancement of any department of knowledge, save in so far as such endeavors may fairly be assumed to concern the common weal in a direct and immediate way.

In another particular the work of the board has met with a check. The special task of battling against epidemics in various parts of the country, whether by assisting the efforts of local boards or in other

ways, has been transferred to the Marine-Hospital Service. This action, too, seems to be taken as a grievance in some quarters; we are unable to see upon what grounds, however. We have heretofore had occasion to commend the workings of the Marine-Hospital Service, and we now look to see the officers of that corps do good work in the special field in question, which indeed is but an amplification of what the regulations have required of them in the past, as will be seen by the second of the two following circulars:

WASHINGTON, D. C., August 9, 1882.

To Medical Officers of the Marine-Hospital Service and Officers of State and Municipal Boards of Health:

I am directed by the Secretary of the Treasury to inform you that Congress, at its last session, enacted that "The President of the United States is hereby authorized, in case of a threatened or actual epidemic, to use a sum not exceeding one hundred thousand dollars, out of any money in the Treasury not otherwise appropriated, in aid of State and local boards, or otherwise in his discretion, in preventing and suppressing the spread of the same." He further directs me to inform you that the President has decided to employ this contingent appropriation through the agency of the Treasury Department, and that, in case of a threatened or actual epidemic, immediate action will be taken, upon application from the Governor of a State addressed to the Secretary of the Treasury.

JOHN B. HAMILTON,

Supervising Surgeon-General U. S. Marine-Hospital Service.

WASHINGTON, D. C., August 11, 1882.

To Medical Officers of the Marine-Hospital Service:

The attention of all officers is called to the following paragraphs of the Regulations governing this Service, approved by the Secretary of the Treasury November 10, 1879:

"PARAGRAPH 61. Medical Officers and Acting Assistant Surgeons of the Marine-Hospital Service will inform themselves fully as to the local health laws, and the regulations based thereon and in force at their respective ports and stations, and will comply strictly therewith."

"PARAGRAPH 62. Medical Officers and Acting Assistant Surgeons are, under the direction of the Supervising Surgeon-General, required to observe and to aid in executing the quarantines and other restraints established by the health laws of any State, and to report forthwith to the said Surgeon-General any important event or fact that may come to their knowledge bearing upon the importation, outbreak, or spread of cholera, yellow fever, small-pox, typhus, or other epidemic disease, at or near their respective stations."

A strict compliance with these paragraphs is enjoined.

JOHN B. HAMILTON,

Surgeon-General U. S. Marine-Hospital Service.



Reviews and Literary Notes.

A Manual of Midwifery. By ALFRED MEADOWS, M. D. Lond., F. R. C. P., late Examiner in Midwifery at the Royal College of Physicians, etc., assisted by ALBERT J. VENN, M. D., M. R. C. P., Obstetric Physician to the Metropolitan Free Hospital, etc. Fourth edition. New York: G. P. Putnam's Sons, 1882. Pp. xxiv-498. [Price, \$2.50.]

WE are under the impression that no previous edition of Dr. Meadows's manual has been published in America, although for a number of years past, in fact, ever since its first appearance, it has found a degree of acceptance in Great Britain commensurate with the esteem in which its author is justly held. We think it can scarcely fail to become popular here also. In this notice we shall refer only to a few passages that have engaged our attention, the general tenor of the work being admirable. Speaking of the rhythmical contractions of the uterus on which Dr. Braxton Hicks lays so much stress in the diagnosis of pregnancy, the author says (p. 88): "If the hand is placed over the uterus and a little firm pressure is made, it will frequently be observed that the tumor becomes alternately lax and firm; this is due to slight contraction on the part of the uterus, and it is so peculiar and distinctive that I know of no other condition that is at all capable of yielding such a result." From this it is apparent, either that Dr. Meadows does not admit that, as has recently been stated, these same contractions are sometimes due to the presence of certain elastic tumors of the uterus, or else that he is not aware that that criticism has been made. Not quite half a page is devoted, under the head of Signs and Symptoms of Pregnancy, to the treatment of the vomiting of pregnancy, closing with the sentence: "All remedies failing, abortion or premature labor may be induced, to save life." Jones's and Copeman's methods of treatment are mentioned, to be sure, but we think more might have been said of them with advantage. The use of ipecac is not alluded to. It is in scant terms, too, that the electrical treatment of extra-uterine pregnancy is spoken of—a method that, judging from data already accumulated, seems to us far more promising than all others.

On the management of abortion with retention of parts of the ovum the author thus expresses himself: "Much discussion has arisen as to whether it is allowable that a small portion of the ovular membranes or placenta may remain in the uterus, some believing that it would become putrid, be absorbed, and produce phlebitis and septicæmia, while others think that no harm would result from its retention, and that it would be better to leave it to be thrown off than to extract forcibly. My own experience favors the latter view, provided that the discharge be not excessive; but, at the same

time, if any unpleasant symptoms arose, I should at once endeavor, if possible, to remove the remaining fragments, and to wash out both vagina and uterus with warm water." In regard to supporting the perinæum, in natural labor, he says: "My own opinion is that, when the head has had fair time gradually to stretch the perinæum and surrounding structures, there is no need whatever for this, to say the least, most unpleasant proceeding; but when the labor is, either naturally or artificially, rapidly terminated—when, in other words, the perineal structures are suddenly and severely strained—then I believe there is danger of laceration, and consequent need for manual support."

In regard to the management of the placenta in cases of labor at full term, while we do not insist that the particular method known as Credé's should have been specially dwelt upon, we do think that more details should have been given of the general subject of expression. We must admit, however, that the author treats his readers as men of sense, rather than as children, by omitting to inveigh against traction on the cord under any and all circumstances. Dr. Meadows gives what he calls "one almost unfailing test by which we may judge when the placenta has become detached from the uterus, and, consequently, when it may be removed;" and, to our amazement, "the test in question is the presence or absence of *pulsation in the cord!*" This can scarcely be a mere slip of the pen, for it is given substantially three times in the same paragraph. Here follows something that will be likely to strike Americans as novel: "It may be well here just to explain the term '*student's placenta.*' At a first case the placenta does not come away easily, and appears to the student to be adherent; his fears are augmented, and wisely he calls in experienced aid. The explanation of this is that the placenta is lodged over the pubic arch, especially in cases of pendulous abdomen. Gently tapping the abdomen above the pubis [*sic*] will readily bring it down."

In the chapter on the forceps we are surprised to find Churchill's statistics still employed to illustrate the frequency with which the instrument is used in Great Britain, France, and Germany; for we are persuaded that they give no idea of the practice of the present day in any of those countries. Dr. Meadows does not think Tarnier's forceps likely to come into general use, and in the short paragraph in which he summarily disposes of the instrument we find the expression "*some forceps,*" "*their cumbrousness,*" and "*these forceps.*" Custom, to be sure, sanctions the barbarism of using forceps in the plural when two or more instruments are referred to, but surely Dr. Meadows must know that it is quite inadmissible to use the word as a plural when speaking of one particular instrument.

The author dissents from Barnes's opinion that the use of the bougie to bring on premature labor excels all other methods in safety and certainty, mentioning that he has known it to fail in several instances.

On pp. 264 and 265 Dr. Meadows discusses the comparative merits of craniotomy and the Cæsarean operation. His language is not very clear,

but careful reading will show that he is disposed to view the latter procedure more favorably than is commonly the case with his countrymen; this we consider very highly to his credit. Porro's operation is dismissed with less than half a page; laparo-elytrotony is granted nearly a page—and the pages are small. We are glad to see that the author disapproves of Ramsbotham's sharp hook for decapitation; Braun's key-hook is not mentioned. British cephalotribes are preferred to those made elsewhere, the best being Simpson's, Kidd's and Hicks's.

It seems to us a little behind the age to recommend tartar emetic as "the remedy which will be found of greatest service, as a general rule," for rigidity of the cervix. The condition described as "pulmonary thrombosis" (p. 447) might better have been called pulmonary *embolism*, we think.

In these criticisms we have not been actuated by any desire to find fault; indeed, had we not thought the book a good one in the main, we should simply have said so, without going into details. It is really a work that every practitioner may read with profit, and we welcome it most cordially. The mechanical make-up of the volume is quite pleasing, especially in the matter of the binding.

Transactions of the American Gynæcological Society, vol. 6, for the year 1881. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. viii-542.

We congratulate the society upon the comparatively prompt appearance of this volume of its Transactions. The printing is the work of the Riverside Press, although the imprint is of Philadelphia. The volume presents the sumptuous appearance of its predecessors.

Our readers will remember that, with scarcely any other exception than the candidates' papers, we have given a very full account of the proceedings of the meeting, running through several numbers of the journal; therefore we shall not attempt an analysis of the contents, which, however, it may be well to enumerate. The papers are as follows: The Annual Address of the President, Dr. W. H. Byford, of Chicago; Acute Hyperæsthesia of the Peritonæum, either Circumscribed or Diffused, following Minor Gynæcological Operations and Manipulations, by Dr. Samuel C. Busey, of Washington; Exploratory Puncture of the Abdomen, by Dr. H. J. Garrigues, of New York; Notes on Cases of Pelvic Effusion resulting in Abscess, by Dr. G. H. Lyman, of Boston; Genital Renovation by Kolpostenotomy and Kolpocæpētasis in Urinary and Fæcal Fistules, by Dr. Nathan Bozeman, of New York; Forceful Elongation of Pelvic Adhesions, by Dr. E. Van de Warker, of Syracuse; Lupus or Esthiomène of the Vulvo-anal Region, by Dr. Isaac E. Taylor, of New York; Bursting Cysts of the Abdominal Cavity, by Dr. William Goodell, of Philadelphia; Erysipelas in Childbed without Puerperal Peritonitis, by Dr. H. F. Campbell, of Augusta, Ga.; Expansion of the Bladder over the Surface of Abdominal Tumors and its Attachment to them or to the Abdominal Walls, as a Complication of Laparotomy, by Dr. T. Gaillard Thomas, of New York; Fibroid Polypus with Partial

Inversion of the Uterus, by Dr. T. A. Reamy, of Cincinnati; Axis Traction with the Obstetric Forceps, by Dr. Albert H. Smith, of Philadelphia; Measurements of the Uterine Cavity in Childbed, by Dr. A. D. Sinclair, of Boston; Jaundice in Pregnancy, by Dr. J. W. Underhill, of Cincinnati; The Practice of Gynæcology in Ancient Times, by Dr. E. W. Jenks, of Chicago; Can Lacerations of the Cervix Uteri be prevented? by Dr. W. M. Polk, of New York; A Point in the Management of the First Stage of Labor, by Dr. W. R. Gillette, of New York; The Treatment of Chronic Perimetritis by Puncture and Iodine Injections, by Dr. C. C. Lee, of New York; The Mechanical Action of Pessaries, by the editor of this journal; Mania Lactea, by Dr. E. W. Sawyer, of Chicago; and A Contribution to the History of Combined Intra-uterine and Extra-uterine Twin Pregnancy, by Dr. B. B. Browne, of Baltimore.

Many of these papers are of great value, and it is to be regretted, we think, that the rules of the society discountenance the publication of papers read at its meetings elsewhere than in the volume of Transactions, for thus they reach but a limited circle of readers. We can imagine but one reason for such a course—the fear that free publication in advance of the appearance of the volume would reduce the sale of the latter; and this notion does not seem to us well founded. Nearly every practitioner is necessarily interested in obstetrics and gynæcology, and reads with avidity almost anything coming from such men as those who largely constitute this society; but it is not every one who feels inclined to buy annually an expensive volume devoted to branches in which he is not a special practitioner. On the other hand, those who now buy the volumes would do so in any event, for men specially interested in acquiring the literature of any particular branch almost invariably wish to have it in a collective form, and are willing to submit to any reasonable expense to that end.

Take such a paper as Dr. Thomas's, for instance, treating in a masterly and comprehensive manner of a rare and formidable complication of ovariectomy. Now, it falls to the lot of many a general surgeon to perform ovariectomy one or more times in the course of his career. He is not at all unlikely to stumble upon just this complication, rare as it is, and yet, since it is not elsewhere treated of in any satisfactory way, he will find it novel and puzzling unless he happens to have seen the paper, or such an abstract of it as we gave our readers some months since. Dr. Bozeman's paper, too, was rather abstruse in the abstract for which alone we were able to find space, but the *pièces justificatives* which accompany it in the form of tabular matter, as it appears in the volume, make it very telling. Moreover, we think that any leading journal, if allowed to publish such a paper as Dr. Taylor's in full, would have reproduced the beautiful colored drawings that accompanied it. It now appears adorned with two wretched woodcuts. Expense might better be incurred, it seems to us, in suitable illustrations than in printing on board-like paper and gilding the top-edges.

The index of gynæcological literature, by the Secretary, Dr. Chadwick,

with which, as usual, the volume closes, covers the year 1880. Its value, to those engaged in this branch of study, can scarcely be over-estimated, and great credit is due Dr. Chadwick, as well as his collaborator, Dr. Billings, of the army, for keeping up so laborious a work.

Nervous Diseases ; their Description and Treatment. By ALLAN McLANE HAMILTON, M.D., Fellow of the New York Academy of Medicine, etc. Second edition. Philadelphia: Henry C. Lea's Son & Co., 1881. Pp. 598.

OUR readers may remember that the first edition of this work, which appeared some four years ago, was criticised severely in this journal, and rancorously in some other publications. We are convinced that Dr. Hamilton has really endeavored to remedy the leading defects then so pointedly referred to, as in his preface he professes to have done; but we are also constrained to say that he has succeeded only partially. We are persuaded, however, that what some of his former reviewers took for looseness of thought is really only a habit of carelessness in the matter of accuracy, chiefly in referring to the writings of others—a habit, we may add, which has marred many a book that would otherwise have been welcomed without reserve. This carelessness is most striking in the foot-note references to authors, the great majority of which are incorrect in one respect or another. In a number of instances abstracts are referred to when the originals might easily have been consulted. When such lack of care is manifest in the references the reader is apt to fear that the very statements of the authors cited may not have been given accurately. Besides these shortcomings on the part of the author, the volume fairly teems with typographical errors.

This ends our faultfinding, however. In the main, the book is made up of plain and practical descriptions of the chief disorders of the nervous system, with interesting discussions of pathological points, and very sensible views as to treatment. It is a book which the general practitioner will find of great value. The author does best, we think, when he draws upon his own experience and inculcates his own impressions, and we trust that in the next edition he will give them greater play, and forego the attempt at making a conspectus, an attempt evidently uncongenial to him.

A Pocket-Book of Physical Diagnosis for the Student and Physician. By Dr. EDWARD T. BRUEN, Physician to the Philadelphia Hospital, etc. Philadelphia: Presley Blakiston, 1881. Pp. 256. [Price, \$2.]

DR. BRUEN'S little work treats of the physical exploration of the circulatory and respiratory organs, with only incidental references to the other applications of the art. It puts the subject in a very pleasing way, albeit with a profusion of imagery somewhat unusual in scientific writing. We are not disposed to deny, however, that this very feature may prove a charm

to instill the dry details into the beginner's mind. An excellent feature in the work is the fact that subjective symptoms and other aids to diagnosis are brought into play side by side with the signs elicited by physical examination of the chest, and not, as is too often the case with works of the sort, made to appear of trivial import. We take pleasure in recommending the book as particularly suitable for students and inexperienced practitioners.

Lectures on Electricity (Dynamic and Franklinic) in its relations to Medicine and Surgery. By A. D. ROCKWELL, A. M., M. D., Electro-Therapeutist to the New York State Woman's Hospital, etc. New York: William Wood & Co., 1881. Pp. 122.

ALTHOUGH not so stated on the title-page, this is the second edition of Dr. Rockwell's lectures, most of which were originally published in the "Virginia Medical Monthly." It contains some new matter, including descriptions of the "galvanic accumulator" and the "induction balance," also a lecture on franklinism. To those who are enthusiastic in regard to static electricity, Dr. Rockwell will doubtless seem lukewarm, but, in our opinion, his estimate of it is a just one. "General faradization" and "central galvanization" seem to retain in the author's esteem the rank accorded them in the well-known work produced by him in conjunction with Dr. Beard.

The book makes a good appearance, except for the lack of a title on the back and for the inferior character of the illustrations. One of the latter, however, is entertaining; we refer to Fig. 2 (p. 50), representing "electrization by sparks," in which the serenity of the manipulator contrasts artistically with the appearance of the patient, in whom the artist seems to have aimed at making "each particular hair to stand on end." We commend the book as wholesome reading for the novice in electro-therapeutics.

Frozen Sections of a Child. By THOMAS DWIGHT, M. D., Instructor in Topographical Anatomy and Histology in Harvard University. New York: William Wood & Co., 1881. Pp. 66.

THIS handsome volume contains fifteen life-size drawings of cross-sections of the trunk of the frozen body of a girl said to have been three years old. The drawings, by Dr. H. P. Quincy, are very clear and much more telling, we think, than photographs of like sections would have been. They are in every way creditable and very instructive. Dr. Dwight remarks that the topographical anatomy of children beyond the age of infancy, and yet not old enough to have acquired the anatomical relations found in the adult, has not been much studied. The explanatory text bears evidence of great care in its preparation, and the work, as a whole, strikes us as a very valuable addition to the literature of human anatomy. In the preface some useful hints will be found as to the methods to be followed in making and preserving sections of frozen bodies.

Diseases of the Ear in Children. By ANTON VON TRÖLTSCHE, M. D., Professor in the University of Würzburg. Translated by J. ORNE GREEN, M. D., Aural Surgeon, Boston City Hospital, etc., from Gerhardt's Handbuch der Kinderkrankheiten. New York: William Wood & Co., 1882. Pp. 165.

THIS work of von Tröltsch, the well-known otologist, is fully equal to his previous contributions, being full of practical ideas and common sense. In these days of book-making it is a great treat to see one like this, simple in style, and every page showing forth facts gleaned from a long experience, rather than inculcating abstruse theories. The work is small, containing but 165 pages, and is divided into five chapters, each preceded by the literature of the subject. The chapters are as follows: 1. Diseases of the External Ear. 2. Diseases of the Middle Ear. 3. Foreign Bodies in the Ear. 4. Diseases of the Inner Ear or Labyrinth. 5. Deafmutism.

In Chapter I, in speaking of diseases of the membrana tympani, especially those caused by injury, the author says: "Parents and teachers should have their attention oftener directed by physicians to this unnoticed, but by no means rare, effect of a box on the ear."

In the opening paragraphs of Chapter II he discusses the value of the ear test in medico-legal practice, which a few years ago was so strongly proclaimed by Wreden and others, as the twin-sister of the lung test in determining whether a child had been born living. The author says "the medico-legal examiner will do well not to accept the ear test as a proof either for or against the fact of a child having lived."

In speaking of the predisposition of children to ear disease, the following synopsis may well be quoted: "In childhood, aside from a few weeks after birth, an unusually strong predisposition to diseases of the middle ear exists, owing to the double influence of the peculiar morphological relations of the ear and the pharynx, and to the diseases and conditions of life to which the child is frequently exposed." Several pages of interesting matter follow, on pus in the tympanum in the first months of life, but our space will not admit of its discussion. A good point is made in calling attention to acute aural catarrh occurring during the exanthematous diseases, and the great necessity of the attending family physician's examining the ear as well as noting the temperature, pulse, tongue, etc., without waiting for the complaints of the patient, or for the discharge from the ear, to manifest its presence.

The pages on chronic aural catarrh are full of interest, and in accord with our own views of treatment.

Chapter III, on Foreign Bodies in the Ear, well repays reading, and, if all would follow the advice there laid down, many an ear would escape the meddlesome surgery now too often adopted.

Chapter IV, on Diseases of the Labyrinth, is of especial interest. The author, after discussing deafness following cerebro-spinal meningitis, speaks of suppurative diseases of the labyrinth, and concludes that they have an

intracranial origin, a localized inflammation of the fourth ventricle, and that the process follows the course of the acoustic nerve to the ear. This theory is tenable, as nervous deafness is usually bilateral. We do not discover any mention of "mumps" as a cause of internal ear trouble.

The book concludes with a chapter on Deafmutism, which is largely statistical. On the whole, we recommend the work as one worthy of careful perusal.

The Therapeutics of Gynæcology and Obstetrics, comprising the Medical, Dietetic, and Hygienic Treatment of Diseases of Women. Second edition, thoroughly revised and greatly enlarged. Edited by WILLIAM B. ATKINSON, A. M., M. D., Author of "Hints in the Obstetric Procedure," etc. Philadelphia: D. G. Brinton, 1881. Pp. 571.

THAT a second edition of this work was called for within a year of its first appearance shows that it has found acceptance with the profession. The present volume contains nearly twice as much matter as its predecessor, the additions including an introductory section devoted to general remarks on the treatment of diseases of women, the use of baths, and Simpson's schedule for recording cases; also an introduction to the obstetrical portion, on "case-taking." Under the head of puerperal mania, a few pages are given to the treatment of uterine disease in insane women; and two or three pages are added on coccygodynia, curiously enough, under the head of complications of parturition. The other additions are simply amplifications of sections which figured in the first edition.

The Prevention of Stricture and of Prostatic Obstruction. By REGINALD HARRISON, F. R. C. S., Surgeon to the Royal [Liverpool] Infirmary, etc. London: J. & A. Churchill, 1881. Pp. 28.

THIS brochure includes two separate articles, the first of which is, with some additions, one that appeared in the "Lancet" some two years ago. They will be found useful in enabling the practitioner to save his patients to a great degree from these serious affections.

A Text-Book of Physiology. By M. FOSTER, M. A., M. D., F. R. S., Prælector in Physiology and Fellow of Trinity College, Cambridge. Second American, from the third and revised English edition. With extensive notes and additions by EDWARD T. REICHERT, M. D., Demonstrator of Experimental Therapeutics, University of Pennsylvania. With 259 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1881. Pp. xxiii-13 to 987, inclusive.

DR. REICHERT'S additions to Dr. Foster's well-known text-book relate almost wholly to what is termed physiological anatomy. It is doubtless a convenience to the reader to have this matter under his eye while studying

the work, brief and sketchy though it be; but the author was fully justified in omitting it from his text, since there are now plenty of works in which it is given in ample detail. The English edition of this text-book has been so recently noticed in this journal that we need do no more than commend it again.

Essentials of the Principles and Practice of Medicine. A Hand-Book for Students and Practitioners. By HENRY HARTSHORNE, A. M., M. D., lately Professor of Hygiene in the University of Pennsylvania, etc. Fifth edition, thoroughly revised and improved. With 144 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1881. Pp. 669.

DR. HARTSHORNE seems to have been quite successful in incorporating in this edition of his hand-book a satisfactory *résumé* of what has been accomplished in the principles and practice of medicine during the seven years that have elapsed since the fourth edition was published. In commending the work to the continued favor of the profession, we may be allowed to express regret that the publishers have not given the book a better appearance. The typography strikes us as unpleasant, and the paper is positively shabby.

Favorite Prescriptions of Distinguished Practitioners, with Notes on Treatment. By B. W. PALMER, A. M., M. D. New York: Bermingham & Co., 1881. Pp. 121.

A BRIEF glance is all we have felt inclined to give this little book, for it is of a class with which we have no great amount of patience. That glance has shown us, however, that, while it contains much that will prove useful for hasty reference, it is for the most part trashy, and not altogether free from inaccuracies.

BOOKS AND PAMPHLETS RECEIVED.—Manual of Gynæcology. By D. Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc., and A. H. Barbour, M. A., B. Sc., M. B., Assistant to the Professor of Midwifery, University of Edinburgh, etc. With nine lithographs and four hundred woodcuts. Edinburgh: MacLachlan & Stewart; London: Simpkin, Marshall & Co., 1882. Pp. xxvii-644. ===== A Rational Materialistic Definition of Insanity and Imbecility, with the Medical Jurisprudence of Legal Criminality, founded upon Physiological, Psychological, and Clinical Observations. By Henry Howard, M. R. C. S. Eng., etc. Montreal: Dawson Brothers, 1882. Pp. 145. ===== A Treatise on the Physiological and Therapeutic Action of the Sulphate of Quinine. By Otis Frederick Manson, M. D., Professor of Physiology and Pathology in the Medical College of Virginia. Philadelphia: J. B. Lippincott & Co., 1882. Pp. 164. ===== General Physiology of Muscles and Nerves. By Dr. I. Rosenthal, Professor of Physiology in the University of Erlangen. With seventy-five woodcuts. New York: D. Appleton & Co., 1881. Pp. xv-324. [International Scientific Series.] ===== Suicide: an Essay on Comparative Moral Statistics. By Henry Morselli, M. D., Professor of

Psychological Medicine in Royal University, Turin, etc. The original expressly revised and abridged by the author for the English version. New York: D. Appleton & Co., 1882. Pp. xi-388. [International Scientific Series.] ===== Diseases of Memory: an Essay in the Positive Psychology. By Th. Ribot, Author of "Heredity," etc. Translated from the French by William Huntington Smith. New York: D. Appleton & Co., 1882. Pp. 209. [International Scientific Series.] ===== The Brain and its Functions. By J. Luys, Physician to the Hospice de la Salpêtrière. With illustrations. New York: D. Appleton & Co., 1882. Pp. xix-327. [International Scientific Series.] ===== Physical Education; or, the Health Laws of Nature. By Felix L. Oswald, M. D. New York: D. Appleton & Co., 1882. Pp. 257. ===== La Lithotritie doit être faite sans Traumatisme. Par le Dr. Reliquet, Lauréat de l'Institut. Paris: A. Delahaye et E. Lecrosnier, 1882. [Extrait de la "Gazette des Hôpitaux."] ===== L'Année Médicale (quatrième année) 1881. Résumé des Progrès réalisés dans les Sciences Médicales. Publié sous la Direction du Dr. Bourneville, Médecin de l'Hospice de Bicêtre, etc. Paris: E. Plon et Cie., 1882. Pp. vi-444. ===== Contributions to Practical Gynæcology. By S. James Donaldson, M. D., Fellow of the New York Medico-Chirurgical Society, etc. New York, 1882. Pp. 134. [From J. H. Vail & Co.] ===== The Medical Digest, or Busy Practitioner's Vade-Mecum. Being a Means of readily acquiring Information upon the Principal Contributions to Medical Science during the last Thirty-five Years. By Richard Neale, M. D. Lond., etc. Second edition. London: Ledger, Smith & Co., 1882. Pp. 643-lxxxii. ===== Practical Medical Anatomy. A Guide to the Physician in the Study of the Relations of the Viscera to each other in Health and Disease, etc. By Ambrose L. Ranney, A. M., M. D., Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York, etc. New York: William Wood & Co., 1882. Pp. xxii-339. [Wood's Library of Standard Medical Authors.] ===== Diseases of the Rectum and Anus. By Charles B. Kelsey, M. D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum, etc. New York: William Wood & Co., 1882. Pp. xii-299. [Wood's Library of Standard Medical Authors.] ===== Syphilis. By V. Cornil, Professor in the Faculty of Medicine of Paris, etc. Translated, with notes and additions, by J. Henry C. Simes, M. D., Demonstrator of Pathological Histology in the University of Pennsylvania, etc., and J. William White, M. D., Lecturer on Venereal Disease, etc., in the University of Pennsylvania, etc. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. 461. ===== Mental Pathology and Therapeutics. By W. Griesinger, M. D., Professor of Clinical Medicine and of Mental Science in the University of Berlin, etc. Translated from the German (second edition) by C. Lockhart Robertson, M. D. Cantab., etc., and James Rutherford, M. D. Edin. New York: William Wood & Co., 1882. Pp. viii-375. [Wood's Library of Standard Medical Authors.] ===== The Change of Life in Health and Disease. A Clinical Treatise on the Diseases of the Ganglionic Nervous System incidental to Women at the Decline of Life. By Edward John Tilt, M. D., Past President of the Obstetrical Society of London. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 184. [Price, paper, 75c.; cloth, \$1.25.] ===== What to do in Cases of Poisoning. By William Murrell, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital, etc. Second edition. Detroit: George S. Davis, 1882. 16mo, pp. 96. ===== Proceedings of the Connecticut Medical Society, 1882. ===== Transactions of the Michigan State Medical Society for the year 1882. ===== Transactions of the Indiana State Medical Society, 1882. ===== Transactions of the Medi-

cal and Chirurgical Faculty of the State of Maryland, 1882. ===== Transactions of the Medical Society of the State of West Virginia, 1881 and 1882. ===== London Water Supply. Report, etc. No. xviii. ===== Tenth Annual Report of the Board of Health of the City of Boston. ===== Fourteenth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y. ===== The Medical Register and Directory of the Practitioners of Medicine in the City and County of Philadelphia. Compiled . . . by Samuel B. Hoppin, M. D. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 72. [Price, \$1.] ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held April 18, 1882, Dr. CHARLES C. LEE, President, in the chair.

LAPAROTOMY.—The specimen not yet having arrived, Dr. M. A. Pallen proceeded to narrate the history of the case as follows: About three weeks ago he performed the operation of laparotomy on a patient thirty-eight years of age, unmarried, who was supposed to have a large fibro-cystic tumor of the uterus. He went prepared to remove the entire organ, with its appendages. His diagnosis was based on the fact that on three different occasions he had passed the probe with ease a distance of seven inches into the cavity of the uterus. The patient's abdomen was of about the size of that of pregnancy at full term. On the upper posterior left margin of the tumor there was distinct fluctuation, and in the posterior cul-de-sac on the left there was apparently fluctuation, indicating a second cyst not communicating with the other. The slight degree of menorrhagia which existed failed to account for her excessive debility. Dr. Boldt, his assistant, had diagnosticated the presence of emphysema in the left lung, and preternatural smallness of the heart, which was verified afterward. He was also assisted at the operation by Dr. Goldthwaite, Dr. Janvrin, Dr. Shrady, and others. The incision was made from the umbilicus to the pubes, and afterward, on account of extensive adhesions, it was prolonged upward to the ensiform cartilage. On separating the adhesions, and ligating a large portion of the omentum *en masse*, it was discovered that the tumor which presented under the incision was not the uterus at all, but a pedunculated fibro-cystic tumor, which weighed, when removed, twenty-five pounds and a quarter. In its removal not more than half a drachm of blood was lost from the pedicle. Torsion was applied to some bleeding vessels at the seat of ruptured adhesions, and the Paquelin cautery to two larger ones. The second tumor was discovered to belong to the left ovary, fluctuating but little, and weighing nearly four pounds. After its removal the uterus was in full view, and appeared to be

about four inches in length, although before the operation he had passed the sound several times a distance of seven inches, as before stated. The question arose, whether to remove the uterus entire, or simply to remove the other (healthy) ovary. The latter procedure was adopted. Two small fibromata of about the size of a filbert were removed from the body of the uterus by the Paquelin cautery. Little hæmorrhage had thus far occurred; still the patient's condition excited apprehension, and hypodermics of brandy were given. All oozing had ceased except at the inferior margin of the liver, the transverse colon, and a part of the omentum. To these places cloths wrung out of hot water were applied, which checked hæmorrhage, and caused the patient to rally somewhat. Hæmorrhage reappeared, however, and Dr. Pallen proposed touching the points with the Paquelin cautery, which method Dr. Janvrin and Dr. Goldthwaite thought unnecessary. Dr. Pallen, however, thought it prudent to adapt the oozing peritoneal surfaces to each other by folding the right abdominal wall upon itself and transfixing it with silver sutures held *in situ* by two parallel pieces of gum elastic catheter, as he had several times successfully done under similar circumstances on former occasions. The abdominal wound was closed, not according to Listerism, but after Dr. Pallen's peculiar method, which he considered better—viz.: after washing the parts thoroughly with thymolized water, and closing the wound with sutures, he dressed it with cotton wool saturated in collodion. To nine parts of collodion had been added one part of glycerine, which rendered it quite flexible. Thus the entrance of septic elements was guarded against. The patient came from under ether slowly, the pulse was feeble, and the extremities were cold; but under stimulants she soon did comparatively well. At about 1 A. M. Dr. Boldt saw her, and reported the temperature at 99° F., the pulse 118 and rather full, the extremities warm, and the patient quiet. Dr. Pallen was sent for at about 6 A. M. by the sister in charge, who, finding the patient sinking, had given hypodermics of brandy. The pulse was exceedingly frequent and very feeble, which rendered the prognosis unfavorable. He thought it due to shock, not to hæmorrhage, as the symptoms did not point to this, else he would have re-opened the wound and secured the bleeding vessels. She died about noon. At the post-mortem examination, which was made in the afternoon of the same day, some blood clots, indicating a sufficient loss of blood to account for her death, were found at the points where he had proposed to apply the Paquelin cautery. The lung was emphysematous; the heart was not larger than that of a child nine years of age. The points of interest in the case were, first, an erroneous diagnosis of fibro-cystic tumor of the uterus, made because the sound passed at least a distance of seven inches. The uterus was afterward found to be only four inches in length at most, which suggested the query whether Dr. Isaac E. Taylor was not correct in his ideas concerning the so-called "ductile uterus." It was not probable that the sound would have passed into a dilated Fallopian tube on three different occasions, even had there been dilatation of that channel, and there was not. The left one, indeed, was closed; the right one was perfectly normal. Secondly, should the wound not be left open, after the method of Keith, until we were absolutely certain that every open vessel was closed? To guard against hæmorrhage, he thought it better, as he had done in other cases, to sever the adhesions with the Paquelin cautery. A third point of interest regarded the propriety of removing the right ovary instead of the entire uterus, which was the seat of fibroid tumors. This question, Dr. Pallen thought, was of the most serious importance, and he had decided

to remove the healthy right ovary, rather than the uterus that contained another fibroid, because he believed the cessation of the menstrual fluxionary movements would promote "shriveling" of the uterus, and check the growth of the tumor; besides, he thought it the less formidable operation.

Dr. W. R. GILLETTE remarked that at a former meeting of the society he had reported a case in which a sound introduced into the uterus could be felt by the finger as if directly under the abdominal wall. It apparently passed directly through the uterus several inches, and was felt by members of the house staff of Charity Hospital. The patient, being a paralytic, remained in the wards quite a year, and was the subject of repeated introductions of the sound in order to demonstrate this singular condition, which could not be accounted for except on the ordinary theories. It was not probable that it passed into the Fallopian tubes every time; nor was it possible that it could have perforated the uterus as often as it was passed, certainly not fewer than one hundred times, by the assistants and members of the visiting board. It might be that this was a case of ductile uterus, preventing the extension and the direction of the sound.

With regard to closure of the abdominal wound before all oozing had ceased, the PRESIDENT again quoted Dr. Keith, who attributed his success largely to leaving the wound open until all hæmorrhage had ceased, no matter how long it required. This operator also employed the Paquelin cautery.

Dr. JOHN BYRNE said he agreed with Dr. Pallen as to the importance of delaying closure of the wound until all bleeding had been controlled. About eighteen months ago, when in Edinburgh, he was present, by invitation of Dr. Keith, at an ovariectomy, and could not help being impressed with the extreme care and the seemingly long time occupied by Dr. Keith in arresting hæmorrhage from every point and thoroughly cleansing the abdominal cavity before closing the wound. He (Dr. Byrne) regarded the actual cautery as an agent of great practical value in these cases, and the best means of arresting hæmorrhage from lacerated tissues. As yet he had employed it in one case only, but then with very satisfactory results. Whenever practicable, he would sever all dense bands of adhesion by this means, so as to avoid forcible tearing asunder as much as possible. With regard to the relative merits of the electric cautery and the instrument of Paquelin, he entertained very positive views. He considered the former by far the more suitable, and in every respect better adapted for all delicate manipulations, whether in the vagina or in the abdominal cavity. Besides having a wider range of usefulness, it was adaptable to every variety of cauterizing device, from the smallest platinum point to the largest instrument of the kind ever required. Its thermal action could be strictly limited to each point or surface requiring cauterization, so that important surrounding structures were not exposed to intense radiated heat—a fault so characteristic and yet unavoidable with the "thermo-cautery." Dr. Byrne further remarked that, with such perfect apparatus as might now be procured, there could be no reasonable excuse for failure to obtain ample battery-power for every emergency; nevertheless, it would be found that success with the galvanic cautery demanded experience on the part of the operator, and, what was of equal importance, he should possess some knowledge as to the care and management of the battery, and how to regulate and modify its thermal power to suit each requirement. In his opinion, the hæmostatic properties of the actual cautery, though of great consequence, were secondary in importance to its well-known protective influence against septic absorption.

Dr. P. F. MUNDÉ had used the Paquelin cautery in one case, and with success. It worked well in his hands usually, though many complained that it failed them when most needed.

DYSTOCIA FROM INSUFFICIENT LENGTH OF THE FUNIS; PUERPERAL FEVER.—Dr. W. T. LUSK narrated the following case: Some time ago a patient was brought to the Emergency Hospital, who stated that she had been in labor five days. Before her admission a number of physicians had seen her, and had made ineffectual attempts at delivery. Dr. Lusk was sent for at night, and on his arrival obtained the foregoing history, and the additional facts that the patient was twenty-two years of age, a primipara, with a temperature 103.5° F., and suffering intense agony. He tried to make a vaginal examination, but the slightest touch caused so much pain that he lifted the clothes, and found that the external organs of generation were in a state of acute inflammation. The head could be seen through the vulva, close down by the outlet. Meconium had been escaping since the time she had entered the hospital. The House Physician had delayed calling Dr. Lusk for some six hours, because it appeared as if the child would be born at any moment. Dr. Lusk gave her ether, and applied the forceps, but found much more resistance in delivery than he had expected. In a short time, however, he managed to extract the head, and then, on passing his finger up, found the cord very tense, and wound a number of times round the neck. He was about to cut the cord, which evidently had been the cause of delay in delivery, when a pain came on, and the child, placenta, and cord were expelled together. The child, of course, was dead. He hesitated what to do with the patient, but finally gave orders that she remain in the room where she was confined, that no other patients should enter it, and that absolutely no communication be had between the nurse or physician and the other puerperal inmates of the hospital. The next day she seemed to be pretty comfortable, the temperature not being high, although the pulse was rather rapid; the second day the temperature was about 101° F., but the pulse was very rapid; examination showed that gangrene had set in in the external genitals. She was sent to Bellevue Hospital, all her bedding was destroyed, and the nurses and attendants were removed from the hospital. Within two or three days, however, two patients in other wards were attacked with puerperal fever. After a severe course they recovered. To the gangrenous tissue, the patient being now at Bellevue, he applied equal parts of the persulphate of iron and compound tincture of iodine. On the third day the parts looked much better, and on the fourth day they were quite clean, but pale. The patient's general condition was not encouraging. Careful examination failed to discover any lesion within the vagina. The next day the House Physician said that every time he gave a vaginal injection the patient went into a state of partial collapse. Dr. Lusk made an examination, and discovered a small slough in the upper portion of the vagina, communicating with the peritoneal cavity. The patient soon died. The slough, doubtless, occurred as the result of the great and long-continued pressure of the child's head. The case was specially interesting regarding difficulty of labor due to shortening of the cord, a question exciting considerable discussion of late.

Regarding the extension of puerperal fever under such circumstances, Dr. FORDYCE BARKER remarked that the illustration which he once heard a clergyman use was applicable: A small spark which might be extinguished by the foot of a little child might kindle a conflagration that should destroy a great city.

Dr. LUSK added that in the present case doubtless orders had been disobeyed,

and communication took place between the other puerperal patients and some one of the attendants on this patient. This was simply inferred from the results.

Dr. Pallen referred to an epidemic of puerperal fever in the Maternity Hospital, which continued to break out without any known means of communication from patient to patient; but he believed the contagion was brought by the nurses of Charity Hospital, or possibly by the house staff. He had written a paper on "The Prophylaxis of Pregnancy," in which he referred to this epidemic, and also to the care given the "waiting" women in Charity Hospital, lest they should bring the germs of puerperal sepsis to the Maternity Hospital.

Dr. Gillette remarked that in the case referred to by Dr. Pallen a recurrence of the fever under the circumstances was certainly remarkable, inasmuch as the buildings were entirely new, the furniture was new, even the utensils for the table were new; the attendants and nurses had never been in the service before, and the physicians were also uncontaminated, not having been in any other service. The moment this hospital was opened, puerperal fever broke out, and never ceased so long as maternity patients were cared for in the new hospital. The cause was not difficult in this case to determine, for the waiting women were permitted to remain in the general wards of Charity Hospital, where they were constantly subject to the atmosphere of the general wards to such a degree that it only required the exciting cause of parturition to light up the germs of septicæmia. In proof of this, since the waiting women had been kept out of the wards of Charity Hospital, and in the pavilion, there had been no puerperal fever at all to contend with.

Dr. Barker agreed with all Dr. Gillette had said; we should not forget, however, that puerperal fever, as he believed, was autogenetic in some cases. He had seen examples of it, particularly in the country, where no possible source of contagion could have existed. By remembering this fact, we might sometimes avoid charging innocent persons with communicating the septic poison. Regarding shortness of the cord as sometimes being a cause of difficult labor, he considered it an established fact, and he himself had often seen examples of it. A case which he had reported before might again be alluded to as being remarkable. The woman had been confined six times: twice in St. Louis, twice in this city—once under the care of the late Dr. Delafield, and once under that of the late Dr. Gilman—and twice in London, under the care of the late Sir Charles Locock. Labor took place at full term, but the child was invariably born dead. Dr. Barker saw her in her eighth or ninth pregnancy, and was engaged to attend her in confinement. He learned that at her previous confinements she had always had profuse hæmorrhage, and was a long time in recovering, but he had no history which would explain why the child was always born dead. When labor came on, he found no disproportion between the size of the foetal head and that of the pelvis. The presentation was favorable, and the labor-pains were regular and vigorous; finally the head came down and began to distend the vulva, but afterward the patient had severe pains for about an hour, without the slightest progress being made. Chloroform was given, and the forceps was applied; but just before extracting the head he withdrew the instrument, passed up his finger, and found the cord wound three times round the neck, and very tense. Having no bistoury with which to divide the cord, he sent hurriedly to a neighboring physician for one, which arrived soon enough to enable him to extract the child alive, after division of the cord. It was perfectly evident that the short cord had retarded labor; and, had he proceeded with delivery by the

forceps, the placenta must have come away, and, in all probability, the child's life, and perhaps the mother's, been destroyed. The cord was eleven inches long, or but two after allowing three circles round the neck. This was about twenty years ago; before that he was always in the habit, before bringing down the head, of passing in the finger to see whether the cord was round the neck, and if so, cutting it, which he had found it necessary to do on several occasions; he was more particular to do so since, and was convinced that this was oftener a cause of difficult delivery or retarded labor, of death to the child, and of violent hæmorrhage before the expulsion of the placenta, than was commonly supposed.

Dr. F. P. FOSTER remarked that, while he could understand how unnatural shortness of the cord should interfere with delivery by the natural efforts, he did not understand how it could appreciably increase the difficulty of extraction with the forceps, since that portion of the uterine wall to which the cord was attached would probably descend easily with it.

POST-PARTUM FEVER.—Dr. MUNDÉ related a series of six cases to which he applied this term, as they did not all properly belong to the class of puerperal-fever cases. They were all seen in consultation. ===== The *first case* occurred in November, 1881, and was seen with Dr. Horton. The patient was delivered the day before he saw her, and was then semi-comatose, the vaginal temperature being 105·5° F., and the pulse 160. The discharge from the uterus and vagina was not particularly offensive. Bimanual manipulation revealed nothing abnormal, and the labor had been normal. The cause of the fever was not apparent until incidentally he observed a blush on the patient's side, whereupon he diagnosed puerperal scarlet fever, although, so far as was known, she had not been exposed to scarlet-fever contagion. She died the next day, and, although he was not present again, within a few days he saw a newspaper notice of her little girl's death from scarlet fever. ===== The *second case* was seen about the 1st of March. Four days before, the patient had been attended in abortion by a midwife, who had not removed the placenta. The temperature was 103·5° F., the pulse was 130, and the case had a septic appearance. The placenta was removed with great difficulty. The uterus was irrigated, and the pulse and temperature fell to normal the next day. The following day the temperature was again 103·5°, and the pulse 130, and death ensued on the seventh day from the date of his first visit, in spite of frequent uterine irrigation, salicylate of sodium, quinine, etc. Evidently there was septic endometritis. On the second day after the removal of the placenta a very tender and tense swelling appeared on the right forearm, and persisted until death. ===== The *third case* was one of placenta prævia centralis, the placenta being double. Version was performed, followed by the extraction of a macerated child. At the time of delivery the temperature was 102·5°, and the pulse 120. Death took place on the seventh day, from septic endometritis. He had reported the case at a previous meeting. It was seen March 10th, with Dr. Charles Milne. ===== The *fourth case* also was one of placenta prævia centralis, and a dead child was extracted by version. One week after delivery, March 19th, the patient was seen with Dr. Herschel, of Harlem. The uterine mucous membrane was immensely hypertrophied, there was a very foul discharge, the temperature was 104·5°, and the pulse was 140. Death took place forty-eight hours later, of septic hyperplastic endometritis. ===== The *fifth case*, also seen with Dr. Horton, occurred three weeks ago. Before Dr. Mundé's arrival Dr. Thomas was sent for, but Dr. Mundé reached the patient first. This was on Monday, March 27th, at 11.30 A. M. She had mis-

carried forty hours before, and the placenta had not come away. Twenty-four hours after the miscarriage she had a marked chill, and twelve hours later another, much more severe, which lasted an hour. She then passed into a state of almost complete coma. In this condition Dr. Mundé found her, with a temperature of 105.25° in the vagina, and the pulse 150. There was no offensive discharge whatever from the vagina, and he thought it too early for septicæmia to have been developed, although possibly it might have been the case. She had been in a malarial district, had been feeling poorly, and had received anti-malarial treatment. He gave her twenty grains of quinine, intending to return and remove the placenta in the afternoon, but Dr. Thomas, coming in in the mean time, pronounced the case one of acute septicæmia, and advised the immediate removal of the placenta. This was done, and the uterus was washed out with a carbolyzed solution. In the afternoon the temperature went down to 102.5° , and the pulse also fell. Considerable quinine was given, but the temperature continued high, and, after twenty-four hours, salicylate of sodium was substituted, to the extent of eighty grains in eighteen hours, after which she began to improve. On the second day after the removal of the placenta the right hand and wrist began to swell, precisely as in the second case, and were very painful. Dr. Mundé considered this to be evidence of septic absorption. The patient was very much collapsed, and at times seemed delirious. Dr. Barker then saw her, and, as she had redness, swelling, and pain about the wrist, thought her symptoms due to rheumatism and to malarial fever in connection with the puerperal state, but detected no evidence of septicæmia. He suggested the use of bromide of potassium, with a continuance of the salicylate of sodium. The patient continued to improve, and was now rapidly recovering. About ten days after the swelling appeared in the wrist, it was opened, and pus escaped. Dr. Mundé asked: Was this a case of puerperal septicæmia, or one of malarial fever occurring after a miscarriage? He inclined to the former view, although admitting the possibility of malarial complication. — The *sixth case* was seen March 31st with Dr. Rodenstein, who had attended the patient in labor the day before. Her temperature was 105.25° in the vagina, and her pulse 120 to 130. Her general appearance was very good, but, as she had lived where there was malaria, she was given twenty grains of quinine, with the understanding that, if she were not benefited, salicylate of sodium should be tried the next day. On the following day the fever had entirely subsided, and she made a good recovery. Evidently this was a case of puerperal malarial fever.

HENRY J. GARRIGUES, M. D.,

B. F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex-officio*,

Committee on Publication.

A STATED meeting was held May 2, 1882, Dr. CHARLES C. LEE, President, in the chair.

MODIFICATION OF GOOCH'S CANNULA.—The instrument, presented by Dr. A. J. C. SKENE, was larger than the original, curved, and adapted to the application of the ligature, wire, or chain.

ELLIOT'S REPOSITOR COMBINED WITH A CURETTE.—This instrument was also presented by Dr. SKENE. By turning a screw at the external end the uterine curve could be made great or small, or be reversed, and adapted to curetting every part of the canal without withdrawing or turning the instrument. Being

quite flexible, no injury could result. Dr. Skene wished again to state his preference for the *écraseur* in the removal of uterine polypi. It had been objected that it was more likely to include a portion of the uterine wall than the galvanic-cautery wire was. He considered this idea contrary to experience and to the laws of mechanics. The danger of hæmorrhage was trifling; the wounded surface healed readily.

Dr. M. A. Pallen remarked that he had assisted in removing a polypus from the uterus with the *écraseur*, and with it came a portion of the uterine wall as large as a half-dollar, as was proved by a post-mortem examination at which the late Dr. Hodgen was present.

Dr. Skene thought the same accident would have occurred in that case, whatever instrument had been employed, for doubtless there was partial inversion of the uterus at the attachment of the tumor.

CYSTO-SARCOMA OF THE UTERUS (?).—Dr. H. J. Garrigues presented the specimen, accompanied by a written history. [See the August number of the journal, p. 139.]

Dr. C. S. Ward thought the question of diagnosis in this case was an interesting one. One would hardly expect so great depth of the uterine canal in a case of purely ovarian sarcoma; would this not suggest that the growth began in the uterus?

Dr. W. M. Polk asked what the usual depth of the uterine canal was in cases of ovarian sarcoma. It measured between three and three quarters and four inches in a case in which he had recently made an autopsy. The growth did not involve the uterus in the least.

Dr. P. F. Mundé had read an article which stated that in tumors of the ovary with short pedicles the uterus (and, of course, its cavity) might be found elongated. As a rule, however, elongation of this canal indicated a tumor of the uterus itself.

With reference to the presence of ascites, which existed in the cases mentioned by Dr. Garrigues and Dr. Polk, Dr. Pallen said he had seen one case of epithelioma and another of sarcoma of both ovaries in which it was absent. In the latter case, he at first diagnosticated marked general chronic pelvic cellulitis, there being very considerable induration; his opinion was not changed even when cancer of the stomach apparently developed. Dr. Thomas and Dr. Sands then saw the patient again, and diagnosticated carcinoma of the uterus, with general infiltration. The patient was under observation thirteen months, and died. Dr. Welch made the post-mortem, when the disease was found to be sarcoma of the ovaries, which were excessively hard, and crowded the healthy uterus firmly down into the pelvic cavity; hence the error in diagnosis. The other patient was under observation five or six years, and was finally persuaded to be operated upon for cyst of the left ovary. The cyst was removed by Dr. Pallen, but there were also epitheliomatous disease of this ovary and a cysto-sarcoma of the right one. In neither case, as stated, was there ascites.

The President remarked that elongation of the uterus as a diagnostic sign in certain cases of pelvic tumors was found practically to be of little value.

Dr. Mundé remarked, with regard to the relative position of the uterus in cases of large abdominal tumor, that, if it was posterior to the tumor he believed the growth was usually ovarian; otherwise, a tumor springing from the uterus.

Dr. Garrigues had seen a number of cases of ovarian tumors in which the uterus was enlarged. It was true that usually sarcoma of the ovary developed

so rapidly that there was no time for increase in the size of the uterus. But it must not be forgotten that the disease not infrequently originated in a fibroma, which, as was well known, was of slow growth. He thought the patient whose case he had narrated might have recovered had she been operated upon seven months before.

THE TOPOGRAPHY OF THE VESICO-UTERINE PERITONEAL REFLEXION.—Dr. POLK said we were taught in the text-books that the peritoneum did not descend below the internal os upon the anterior surface of the uterus. This was true in the ordinary position of the pelvic viscera, but, as shown by a specimen that he now presented, if the bladder were empty, and the uterus displaced upward, as occurred in certain normal and abnormal conditions, the peritoneal fold dipped lower upon the cervix, and might be injured in incisions below the internal os.

HENRY J. GARRIGUES, M. D.,

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Committee on Publication.

A STATED meeting was held May 16, 1882, Dr. CHARLES C. LEE, President, in the chair.

BATTEY'S OPERATION.—The case was related by Dr. B. Mc E. EMMET. The patient was forty-six years of age, and had been under his observation four years. From the time of her marriage, at the age of seventeen years, there had been a constant metrorrhagia. Once a uterine polypus was removed, but the symptoms continued. She had consulted a number of physicians, but they refused to operate, although it was evident they suspected the presence of some uterine tumor. Constant expulsive pains, which caused much suffering, seemed to have no effect upon the growth. When Dr. Emmet saw her he discovered, on dilating the canal, a neoplasm spread generally over the fundus. The treatment could only be palliative. After a year she returned, but the tumor, though it had assumed more definite shape, could not yet be removed. She returned again, suffering greatly. The tumor was now on the anterior wall, near the internal os. As she had not borne children, the cervix was small, so Dr. Emmet divided it posteriorly, hoping thereby to render the expulsive pains more effectual, and to be enabled to seize the growth with an instrument and extract it. This also was unsuccessful, and considerable hæmorrhage took place, which was checked with a silver-wire stitch passed around the divided vessel. Peritonitis developed, and ran a severe course, but was finally controlled by the cold douche, on Kibbie's cot. She returned again, to submit to the operation of oöphorectomy, by which it was hoped to end her troubles by bringing on the menopause. On Thursday last the operation was performed, both ovaries with the tubes being removed. The abdominal walls were very thick, and considerable difficulty was encountered in placing the ligatures. Violent peritonitis ensued, the temperature rose to 104.4° F., but was reduced and kept down to 100°-101° by means of ice-cold water passed through the coiled rubber tubing. The fifth day had now passed, and the patient's chances of recovery were very good. There had been no flow whatever since the operation. Dr. Emmet would call special attention to the use of the rubber coil in reducing temperature, as being very effectual and convenient, and not depreciating the vitality of the patient by unnecessarily chilling the surface without lowering the temperature, as occurred in some degree in the

use of the douche. The tubing might be applied to any part—the head, the abdomen, or the thighs.

The PRESIDENT remarked that a European modification of Dr. Chamberlain's method of controlling the temperature by means of coiled tubing had, incorporated with it, two thermometers—one in the vessel containing the fluid, the other to come in contact with the surface of the body, from which the temperature could be read at any moment.

Dr. W. M. POLK had obtained very satisfactory results from the tubing coiled round the patient's body during the first stage of pneumonia.

Dr. P. F. MUNDÉ had been accustomed to apply cold in the first stage of peritonitis, and heat in the latter (when exudation had taken place), but it was difficult to tell when the cold applications should cease and the hot ones be begun. He would say that generally after forty-eight hours it was proper to make a change from cold to hot.

Dr. EMMET remarked that he applied cold in this case not as a curative agent for the peritonitis, but to control excessive temperature, by which the patient's vitality was becoming exhausted.

Dr. W. T. Lusk preferred dry cold to moist heat, as it caused less tympanites and acted equally well as a local anæsthetic.

Dr. POLK thought there were two points involved in the question: first, the effect of cold in reducing the general temperature; secondly, its local effect upon the inflammatory process. We had a good example of the former in its favorable use in cases of sunstroke with high temperature, while examples of the latter were to be found in its early application, by means of the ice-bag, to any part in which the inflammatory process was beginning.

Dr. M. A. Pallen thought that, so far as the effect upon the local disease was concerned, no positive rule could be laid down for the application of either heat or cold; each case must be treated according to its own special indications. Both agents had the same effect in diminishing the blood supply of the surface to which they were applied, by constringing the vessels, and both thus increased the vascularity internally; if, however, under the use of one, the temperature did not fall, the character of the pulse improve, and other favorable indications manifest themselves, the other should be tried instead. There was a septicæmic peritonitis, with the presence of red serum, where, if cold were applied, death would undoubtedly be hastened.

CYST OF THE PLACENTA: VISCUM ALBUM AS AN OXYTOCIC.—Dr. MUNDÉ presented the specimen, which was obtained from a case of tedious confinement four days before. The cyst held about two ounces of serum, and was situated close to the insertion of the cord. Out of about twenty-five hundred placentæ examined by him, he had found cysts in only about six. Doubtless Professor Wedl, of Vienna, was correct in his views concerning the nature of these cysts—that they were the remains of blood clots. As said before, labor was very tedious in this case, and the patient desired him to give her ether, saying it had been of great benefit in previous labors. Instead, he sent out for viscum album, but, before it arrived, so severe, but ineffectual, a pain came on that he gave ether, and within an hour the child was born. He had never before known ether to produce so marked an oxytocic effect. In reply to a question by Dr. Garrigues, he said he objected to giving ergot before the child was born, through fear of producing spastic contraction of the uterus, whereas viscum album, according to Dr. Long, of Louisville, simply increased the regular intermittent uterine con-

tractions. He had tried the latter drug in but two obstetric cases, and was as yet unable to judge of its effects. In menorrhagia in the non-puerperal state he had found it of benefit.

Dr. Lusk remarked that he had employed viscum album during labor, and was satisfied that its utility, if it possessed any, was limited to but very few cases.

Dr. Pallen remarked that he had never used it in labor, but in a number of cases where menstruation was excessive, sometimes amounting to menorrhagia, the patients being anæmic and flabby, it had been of marked benefit in lessening the flow.

CONGENITAL CYST OF THE LIVER; ENLARGED THYMUS GLAND.—The specimen was presented by Dr. Dawson. [An account of the case will be given in a future number of the journal.]

VAGINAL LITHOTOMY.—Dr. ROBERT WATTS presented a vesical calculus with the following history: A woman, fifty-five years of age, entered the Roosevelt Hospital, complaining of falling of the womb. The perinæum was found badly torn, and there was prolapsus of the rectal and bladder walls. A hard mass could be felt through the vesical walls, examining *per vaginam*. She suffered from symptoms of severe cystitis, having to pass water every few moments, and being unable to walk. Her general health was much deteriorated. A long incision was made through the vesico-vaginal septum, and the stone was removed. The incision was closed, a catheter was introduced into the bladder, and all went well, pain being relieved, until the ninth day, when leakage took place through a small point in the line of incision, though sloughing was more extensive on the vaginal edges of the wound. Cleanliness was observed, after ten days the leakage ceased, and the patient went on to complete recovery, all her former symptoms having disappeared. The stone weighed 812 grains, and was probably phosphatic.

Dr. Pallen remarked that it would be interesting to have the stone examined for a nucleus, as it had been stated of late that most if not all stones in the female bladder had a foreign body for a nucleus. He thought this case went far to prove that the wound made in the bladder for extraction of stone should not be sewed up, and for several very good reasons—viz., liability of sloughing in the line of union, which took place in Dr. Watts's case; that the viscus might be kept washed out with simple or medicated water to remove all urinary sediment, etc.; and because the thickened walls should not be allowed to contract and expel the urine; complete rest was thus obtained, which was necessary to a cure. He had operated for stone seven times within five years past. In the first case the wound failed to unite after being closed by sutures, thus enabling a cure to be effected. In the second he was compelled to open the wound with the cautery after it had closed, because of a continuance of symptoms. In the last five cases he left the wound open, and closed it after cure of endocystitis or cystitis had taken place, which was from six to thirty weeks. One closed of itself within eighteen days after the operation.

Dr. WATTS thought that unless there were severe cystitis a cure could be effected with the wound closed, provided the catheter was properly used; and thus the patient would be saved the great discomfort and even loathsomeness connected with a vesico-vaginal fistula, which must remain open for some time. If acute cystitis developed, then the question of opening the wound would arise.

Dr. Pallen remarked that in nearly every case of stone in the bladder there

was more or less cystitis, giving rise to great suffering, and he knew of no patient who did not prefer the discomforts of a vesico-vaginal fistula to the pain incident to cystitis. Moreover, with a little care the loathsomeness depicted by former writers as connected with vesical fistula could be largely avoided. It was of trifling importance compared with the opium habit, likely to be induced if the sufferings incident to cystitis were allowed to continue.

The PRESIDENT remarked that Dr. Pallen and Dr. Watts agreed with regard to the propriety of leaving the fistula open if there were a sufficient degree of cystitis to indicate it. That this degree of cystitis usually did exist seemed to be supported by the fact that the fistula did not usually heal of its own accord, as traumatic fistulæ did.

LE FORT'S OPERATION FOR PROCIDENTIA UTERI.—Dr. B. McE. EMMET said he had performed this operation on a woman who had passed the menopause, and was suffering from extreme procidentia, aggravated by a large fibroid tumor of the uterus. The perinæum was badly torn. The surfaces denuded were three centimetres in breadth and six in length. The whole of the vulval outlet was closed, leaving just sufficient space for the meatus urinarius. The patient had not yet risen from bed, but it was thought the operation would prove successful.

The PRESIDENT and Dr. POLK remarked that they had performed the operation successfully, each in a single case.

INTUSSUSCEPTION RELIEVED BY INJECTIONS.—Dr. W. R. GILLETTE related a case of this sort, which will be found on page 261.

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Committee on Publication.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

A STATED meeting was held May 4, 1882, the President, Dr. E. L. DUER, in the chair.

ICTERUS NEONATORUM.—The following paper was read by Dr. BOARDMAN REED, of Atlantic City, N. J.:

The questions of most interest with regard to icterus neonatorum are its etiology and pathology, and its relations to umbilical hæmorrhage and purpura. As to the first of these points, we can arrive at satisfactory conclusions only after an extended series of autopsies, such as it is rarely or never the privilege of the physician in private practice to see. The wards of lying-in hospitals ought to afford the needed data to determine finally whether jaundice in the new-born originated in the liver or in the blood. A sufficient number of thorough post-mortem examinations do not seem to have yet been made to set this question at rest, hence we find a variety of theories maintained. The theory advanced in many of the older books is that the retained meconium forms an obstruction to the escape of the bile. This does not seem to have been confirmed by post-mortem examinations, and is improbable from the fact that icterus usually does not develop in infants until several days after birth, and after there have been numerous fecal evacuations. Some of the German authorities consider that icterus neonatorum is probably due to lowering of the blood pressure in the hepatic capillaries in consequence of the cessation of the blood stream passing

directly from the umbilical veins into the portal vein. This at first appears plausible, since experiments upon animals conducted by Heidenhain and Lichtheim prove that lowering the blood pressure in the liver, as by starvation or by establishing a biliary fistule, may cause all the phenomena of jaundice. But, as this change in the circulation must take place in every infant immediately after birth, we should expect jaundice to be universal in the new-born, and to come on always within a day or two after birth, whereas it affects a very small proportion of the whole number of children born, and is generally developed between the third and tenth days. It seems more probable to me that jaundice in the new-born (excluding the transient yellowish discoloration due to the natural fading of the rosy color first seen in healthy infants) may arise from at least two wholly different causes, and is, therefore, divisible into two classes: one obstructive or hepatogenous, and the other of hæmic origin or hæmatogenous. The first, we have reason to believe, originates most frequently, as in adults, from a catarrh of the duodenum or bile-ducts, which we might expect *a priori* to result during the first week of life from the ablutions to which many infants are subjected under circumstances that render taking cold almost unavoidable before a tolerance has become established. That exposure to cold is one frequent factor in producing the disease is well known. It is recorded by West that in the Dublin Lying-in Hospital, where the hygienic conditions are excellent, infantile jaundice is very rare; while in the Foundling Hospital at Paris few infants escape it, nearly all the abandoned little waifs being exposed to cold before admission. It is doubtless true that jaundice dependent upon persistent obstruction, occlusion, or congenital absence of the bile-ducts, instances of which have been observed in infants, may go on to the production of profound blood changes, and be complicated with hæmorrhage from the umbilicus or mucous surfaces as a consequence; but I am disposed to maintain that many of the grave cases associated with such hæmorrhages are of hæmic origin. The reasons for this view are: 1. The constantly observed fact that the most intense forms of obstructive infantile jaundice are often accompanied by light stools and high-colored urine, and yet unaccompanied by any tendency to hæmorrhage. Several of my cases exemplify this fact, and notably the one hereinafter reported of a child born with measles and shortly afterward developing jaundice. Every practitioner must see many cases of severe yet uncomplicated jaundice. On the other hand, persistent and fatal hæmorrhage now and then occurs in cases where the jaundice is only slight. Many such are on record; nor can it be assumed that the connection is only accidental, as the statistics to be cited farther on abundantly establish a causal relation between jaundice and hæmorrhage. 2. The fact that these hæmorrhagic cases associated with slight jaundice do not usually present any marked evidence of obstruction to the flow of bile, such as constipation, white stools, etc. 3. The fact that they occur frequently under conditions, such as immaturity and feebleness at time of birth, which have no obvious connection with hepatic obstruction, but are most likely to be dependent upon an inheritance of poor blood from the maternal system, or of digestive and assimilative powers so weak that the elaboration of healthy blood by the infant organism is impossible. These reasons, I submit, render still tenable the theory that infantile jaundice may have other than an hepatic origin. The relation of icterus neonatorum with the hæmorrhagic condition manifested most often by bleeding from the umbilicus is a subject of much interest and practical importance, concerning which the profession is in need of more exact informa-

tion. That there is often a dependence one upon the other is certain. Among two hundred cases of spontaneous umbilical hæmorrhage which have been reported, including two of my own, jaundice was observed in seventy. It probably existed in a slight degree in a much larger proportion, not being considered of sufficient importance to report; but even the above-recorded ratio of more than one in three is sufficient to prove a causal relation, since in any unselected two hundred births we should not expect to have more than ten or fifteen cases of jaundice instead of the enormous number of seventy. Spontaneous umbilical hæmorrhage is so rare that many physicians of extensive experience have never seen it. West, in the first edition, gives a better description of it than most recent writers on diseases of children. He emphasizes particularly the fact that it may depend upon a grave form of jaundice, but states that he has never met with a case of it. This complication being so rare, I shall not apologize for briefly summarizing here a report of an interesting case of it seen two and a half years ago in Atlantic City.

CASE I.—A female child, born two weeks at least before term; weight, about six pounds. The mother had suffered at times, for years, from anæmia, palpitation of the heart, and various hysterical symptoms. During the pregnancy she had nausea almost constantly, due to disease of the cervix. Vomiting was so severe and frequent toward the close of the period that her health was greatly impaired by it. I was on the point of applying nitrate of silver to the cervix, when, after a number of uterine hæmorrhages extending over a week, labor came on and the child was speedily born. The father was even more delicate than the mother, having chronic dyspepsia, periodical sick headache, and nervous exhaustion. After the delivery the cord was secured with a double ligature, and there was nothing abnormal until the fourth day, when the compress over the umbilicus was found saturated with blood, which oozed from all parts of the softening funis. Numerous powerful styptics were applied with only temporary good results, the bleeding, though checked for a time, always recurring after the lapse of a few hours. Dr. W. H. Bennett was called in consultation, and, the day after the hæmorrhage began, hare-lip pins were inserted through the tissues beneath the umbilicus, and the mass was ligated. This greatly diminished the bleeding, and the following day the ligatures were tightened, with the effect of finally stopping it. Ergot and tincture of the chloride of iron were administered in very small doses, with a view to modify the hæmorrhagic diathesis which evidently existed. Before the hæmorrhage was controlled, spots of purpura appeared on the forehead and other parts; jaundice developed shortly after the bleeding began, and became marked enough to be noteworthy, but was at no time intense; the stools continued unchanged in appearance, with a tendency to diarrhœa rather than to constipation. The mother having no milk, the child was fed artificially from birth. Shortly after the hæmorrhage ceased a volunteer wet-nurse suckled the child for several days with manifest advantage. When artificial feeding was resumed, diarrhœa set in and became troublesome; appropriate treatment and a change from fresh milk to condensed milk checked the bowels, but the child failed steadily, nutrition evidently being irreparably damaged, and some icterus persisted until the seventeenth day, when it died. No autopsy was permitted.

As an interesting supplement to this report, I may add that a few months ago another child was born to the same parents, and has had the following history. It was a male, and somewhat larger at birth than its predecessor. On the

second day there was some oozing from the funis, in spite of two ligatures most carefully applied; but this was so readily controlled that it would scarcely have received a second thought except for the serious hæmorrhage in the case of the previous child. As showing the feeble and neurotic constitution bequeathed to these children, it may be mentioned that this infant had a convulsion on the second day after birth, and has had similar seizures at frequent intervals since. It has shown no jaundice at any time.

As a striking example of hepatogenous jaundice in the new-born, the following report is introduced:

CASE II.—The mother while pregnant contracted measles in a severe form; the rash, after coming out well, retroceded; pneumonia developed, and she then aborted some two or three weeks before term. The child, which was of fair size, weighing upward of seven pounds, was covered with a faint rash at the time of birth, and within a day or two presented the usual symptoms of the exanthem, including the catarrh, though the fever was slight. By the fourth day its skin began to turn yellow, and there was rapidly developed a very intense form of jaundice, the color at one time becoming almost olive-green. There was constipation, with one hard, white, putty-like stool daily; urine high-colored, staining the napkins. The liver seemed abnormally small; the region of dullness on percussion measuring about one inch and a half in the mammary and one inch in the axillary line. The child was fed first with diluted fresh milk, and afterward with condensed milk. I saw the case on the ninth day from birth. Jaundice was then very marked, the hue being of a greenish-yellow; but there had been no hæmorrhage either from the umbilicus or from any other part. The child manifesting considerable appetite, with apparently fair digestion, I ventured the opinion that it might possibly survive, though an unfavorable prognosis had previously been given. It recovered gradually from the jaundice, which lasted in all some twelve days, but has since suffered severely from indigestion, and is not thriving.

Careful microscopical examinations of the blood taken from a large number of infants affected with icterus in its various forms would shed much light upon the subject; but I can not learn that any systematic observations of the kind have been made. I regret that such an examination was not made in any of my cases—an omission to be expected of a busy physician in private practice, but one which our friends, the internes in the lying-in wards of the hospitals, ought not to allow, amply supplied as they usually are with all the necessary appliances, and with authority to institute any necessary scientific investigations. Dr. Henry Beates, Jr., Physician to the Sheltering Arms Hospital, Philadelphia, has kindly furnished me with the following notes of cases recently seen by him:

“Having in my ward a large, plump, finely developed infant presenting the characteristic manifestations of the so-called *icterus neonatorum*, I submitted a drop of its blood to microscopical examination. The tendency to the formation of rouleaux was characteristically healthy. The corpuscles had the normal relationship of white to red. The only noticeable feature constituting what might be considered an etiological factor of this affection is a greater number of disintegrated red corpuscles and free protoplasmic nuclei. These, however, were very slightly in excess of that commonly seen under ordinary circumstances, and not sufficient in my mind to satisfactorily account for the intensity of the discoloration. Other symptoms of jaundice, like involvement of the conjunctivæ, pigmentary discolorations by the urine, light stools, etc., were and are positively

negative. I desire to especially direct attention to the fact that this infant is well-nourished and plump. Another case, in fact two, presenting the same phenomena, and under the same conditions of good nourishment, I might say plethora, have occurred recently in private practice. Another child in my ward, when a little less than eight days old, also presented the phenomena of icterus; but mark the contrast. The child was small, thin, and poorly nourished, its expression was one of suffering, its bottle was not eagerly sought, and vomiting frequently occurred. The bowels were constipated, and presented the peculiar clay-colored stool, and the urine stained everything with the characteristic yellow; the conjunctivæ were also involved. After a period of two or three weeks the icterus had faded, and the child is now thriving well. This is an instance of true jaundice (catarrhal), and presents features affording an opportunity of comparison with the discoloration of cutaneous hyperæmia seen almost as frequently as we see what might be termed plethoric babies."

Dr. Julius Kammerer, of Philadelphia, having spoken to me of some remarkable cases of icterus, I asked him to summarize his experience in a note, which is here appended:

"There have been cases under my observation where the jaundice of children coincided with and was dependent on an ulcerative and non-cicatrized state of the navel. This cause of jaundice was so clearly demonstrated that in the autopsy of fatal cases there were found phlebitis of the umbilical vessels extending sometimes to the portal vein, and even small abscesses in the parenchyma of the liver. In every case of icterus of the new-born I have made it a rule to examine the navel, looking for signs of inflammation or ulceration, as the prognosis, in case of their existence, would be less favorable than in cases of catarrh or mechanical obstruction of the biliary ducts. I have seen some of these cases end fatally by spread of the inflammation to the umbilical veins, or by a putrid condition of the blood subsequent to the absorption of purulent and putrid matter."

These observations of Dr. Kammerer's were partially made at the Paris Foundling Hospital during his studies in that city, and seem to me highly important. His note was not received until after the completion of this paper, and on the eve of this meeting, else the views it embodies would have received full consideration in that portion of this paper devoted to the discussion of the etiology of infantile jaundice. It is confirmatory of my opinion that such discoloration may be hæmatogenous, and often associated with disease of the umbilicus.

I have notes of many other cases of simple jaundice in young infants, but they would exemplify nothing more than is shown by the foregoing reports. As already intimated, the subject needs further investigation, but clinical study simply will not afford the light required. The revelations of the dead-house and the microscope, carefully and scientifically observed, can alone determine positively the points in dispute.

A STATED meeting was held June 1, 1882, the President, Dr. EDWARD L. DUER, in the chair.

PUNCTURED WOUND OF THE PREGNANT UTERUS; PARTIAL ESCAPE OF THE FÆTUS INTO THE ABDOMINAL CAVITY; RETENTION OF THE FÆTUS FIVE YEARS.—Dr. B. F. BAER related the history of a case as follows: October 4, 1881, Catherine Curley presented herself at the Dispensary for Diseases of Women at the Hos-

pital of the University of Pennsylvania, and gave a history which is essentially embodied in the following letter, addressed to Dr. Goodell, from her physician, Dr. John Keogh, of Killaloe, Ireland. (This letter was received after the patient had been treated as described in this paper, but, as it gives an intelligent description of the case at the time of the accident, it was thought proper to insert it here.) "Catherine Curley, who was within a week of her confinement, was standing upon a chair the back of which, with the exception of two uprights, had been broken away. She was at the time collecting brambles, and, in stretching for one, over-reached herself and fell, and, in the act of falling, her right side came in contact with one of the uprights. A short time after, she was found lying on the ground in a fainting condition, from which position she was removed to bed and I was summoned to see her. On examination, I found a contused wound on the lower and right side of the abdomen, and, in addition, came to the conclusion that the womb was ruptured and that the foetus had escaped into the cavity of the abdomen. There was intense tenderness and great distension. I immediately decided on giving her at once calomel and opium, the latter in large doses. After the third day I stopped the calomel and continued the opium. The pain and tenderness almost disappeared after a week, and I may say from that period until she left here she never had a bad symptom. Several medical men in this county expressed doubts about the correctness of my diagnosis, but I at once convinced them by presenting the woman for examination at Limerick, a city near here, where many men of eminence and long experience saw her." Dr. Keogh does not mention the fact that the prong of the chair was driven into the abdomen, rupturing everything before it except the skin, which, on account of its great strength and elasticity, escaped unbroken. It would seem incredible that the pain and tenderness should have almost disappeared in a week, and that she should not have had a bad symptom until five years had elapsed. She, however, recovered from the accident, and, strange to say, menstruated three months afterward, and has been doing so regularly ever since. To make matters worse, if possible, her husband, who was in the last stages of phthisis at the time, died within a week, and she was left, without means, to support a family of five small children. This she did through four years by manual labor. Three years ago she came to this country and settled in Salem, New Jersey, where last summer she was under the care of Dr. E. S. Sharp, at which time she passed through an attack of what seemed to be typho-malarial fever, in consequence of which she became somewhat emaciated, and her muscles became relaxed and toneless. This allowed a hernial protrusion through the puncture in the abdominal wall; for this she sought relief, hoping to procure a suitable truss. I only obtained the history of the accident by direct questions in regard to the cause of the hernia, that being regarded by the patient as the greater difficulty and the one requiring treatment. Physical examination with the patient in the dorsal position revealed, by palpation of the abdomen, a circumscribed mass in the hypogastric region extending as high up as the umbilicus, and a little farther to the left than to the right of the median line. It was of about the size of the pregnant uterus at the sixth month, rather flaccid, and pressure on it gave to the hand the sensation of loose bones moving over each other—a kind of crepitus. On the right side of the abdomen, a little below the umbilicus, there was a round perforation of about the size of a silver dollar, which seemed to penetrate everything except the skin. Through this break in the abdominal wall the intestines protruded when she was upon her feet, constituting the ven-

tral hernia for which she desired the truss. Examination *per vaginam* gave the following result: The cervix uteri was small, hard, rather low down, and pointing forward in the direction of the vaginal orifice. The os externum was small and circular, but it was patulous, and flowing from it was a peculiar yellowish fluid, slightly foetid. The finger, carried posterior to the cervix, discovered the body of the uterus enlarged, and apparently expanded around the loose bones referred to above. Now, carrying the finger to the anterior surface of the cervix, the same bulging forward was discovered, and the same continuation of the anterior wall of the cervix into what appeared to be the anterior wall of the developed uterus. Bimanual examination seemed to confirm the opinion already forming—that the foetal remains were still, in part at least, within the uterine cavity. On the right side of the uterus, near the fundus, there was a prominence; otherwise the walls were smooth. I now passed the sound through the os and into the uterine cavity, when it came upon a mass of bones which seemed to be loosely held together by disintegrating soft tissues. The instrument was readily passed to a depth of six inches, and could be moved about with the greatest ease and without the least sensation of pain to the patient; its withdrawal was not followed by any discharge. There was nothing about the case which led me to suspect even that the sound had not really passed into the uterine cavity, but, instead, that it might have passed through an opening in the uterine wall near the cervix into an extra-uterine cyst containing the foetal remains. It may, however, have passed through the opening which was afterward found near the fundus, but not before meeting with that portion of the remains surrounded by the expanded but flaccid uterine walls.

I was, naturally I think, rather inclined to disbelieve the history of rupture of the uterus, from such an accident, to a degree sufficient to allow the child to escape into the abdominal cavity, since the subject was alive and before me. I sought to explain the unusual condition by one of the following hypotheses, viz.: *First*. That the pregnancy had been an extra-uterine one, and probably of the interstitial variety; that the accident resulted in the death of the child merely, and not in rupture of the gestation sac; that it then remained a harmless body until the patient had become reduced by the fever noted above, when it began to disintegrate from decomposition and be thrown off *per vaginam*, after first ulcerating its way through the uterine wall into the cavity of the uterus—but this could not have been so, and the physical condition set down as the result of my examination exist. *Second*. That it was one of those very rare cases of so-called missed labor, in which for some reason—shock of an accident, for instance, by which the nervous system is so depressed that there is not power enough to cause uterine contraction—the product is retained indefinitely within the cavity of the uterus. *Third* (and considered the correct explanation). That the uterus was really ruptured, but that a portion only of the child escaped through the rent, thus preventing, by pressure, a loss of blood which would otherwise have probably resulted in the death of the patient; and that the portion which projected through the rupture became encysted, thus forming a cavity continuous with the uterine cavity, the whole mass remaining harmless until, through the intercurrent of an exhausting disease, decomposition set in and it began to poison the patient. It is not necessary to offer an explanation, if the latter hypothesis be correct, why the uterus did not contract and expel its contents, because it is well known that, in the event of rupture occurring during labor, the pains immediately cease. But, in any event, expulsion could not have

been accomplished here with the child held fast in the rent. Then, I think, the fact that the patient came so readily out of the collapse and recovered so quickly, and that the child lived so long (it is said to have lived three days), prove pretty conclusively that there was no great blood loss, and that the child did not escape entirely from the cavity of the uterus. The child dies very soon after it is expelled into the abdominal cavity, for two reasons—viz., maternal hæmorrhage, and interference with the function of the placenta and cord. Hæmorrhage did not occur, if my theory is correct, for the reason stated above, and the functions of the placenta were not interfered with at once, because it was not separated from the uterine wall suddenly, nor compressed, as would have been the case had the uterus been empty and contracted.

My advice to the patient was, that she submit to an operation for the removal of the decomposing mass, as I considered that she was suffering from slow septic absorption. The operation I suggested was dilatation of the os uteri and removal of the dead product *per vias naturales*. This I looked upon as the most feasible operation, for the reason that it seemed to be of such easy access through that channel, and therefore the one which would be attended by the least amount of danger. Removal by laparotomy would have been most hazardous, since it would have been necessary to open the cyst, and therefore the old rupture of the uterus. There would then have been a fistulous opening in the uterine wall, which would probably have been closed with difficulty, if at all. Moreover, the sac would very likely have ruptured, thus precipitating the contents into the peritoneal cavity. This, of course, would have been a grave complication, as the decomposing material would have been removed with difficulty and danger. Against removal through the os uteri was the possibility, if not probability, of rupture of the sac containing that portion of the fœtus outside the uterus, and expulsion of the contents into the abdominal cavity. This might have necessitated laparotomy for the cleansing of the peritoneal cavity.

The patient, however, refused at that time to have the operation performed, and returned to her home. December 16, 1881, she again presented herself at the dispensary, and exhibited undoubted evidence of septic absorption in rapid pulse, evening rise of temperature, and night-sweats. Examination now showed the mass to be much lower in the hypogastrium, and apparently smaller than at the previous examination. The cervix was, however, of the same length, and still hard, with no tendency toward dilatation of the os. The sound revealed the dead product to be nearer the os, and altogether this examination served to confirm my former opinion, that the product was largely contained within the uterine cavity, and that it could be removed through the os and vagina. This opinion was strengthened by the fact that there had been evident contraction of the walls surrounding the mass. She still refused to submit to the operation, and returned to her home. Her health continued to depreciate, and she was glad, on January 3, 1882, to enter the gynæcological ward of the Hospital of the University, in charge of Dr. Goodell. After careful examination, Dr. Goodell confirmed in the main the opinion expressed above as to diagnosis and treatment, and two days later introduced into the os uteri one sponge and four laminaria tents. Next day the patient was anæsthetized, and the tents were removed, when an effort was made to remove the fœtus. A fenestrated polypus forceps was passed into the cavity and made to grasp the contents; this was readily done, but the removal was not so easily accomplished, for when traction was made it was found that the fœtus was held firmly somewhere, and that it was so

disintegrated that only the portion within the grasp of the forceps could be withdrawn with the instrument. This was repeated a number of times, each withdrawal of the forceps bringing away a bone or some broken-down soft tissue. A discharge of about a pint of very fœtid, thin fluid took place at this stage of the operation. The os was now becoming so small, from contraction of the cervix, that the forceps could scarcely be made to pass, and an effort was made to secure further dilatation by the use of Molesworth's dilator, but it would not work, because it was out of order from long disuse. The only thing left to do was, either to introduce another set of tents and wait until they had dilated the cervix sufficiently, or incise the neck to the vaginal junction. The latter was done. The danger of septic absorption from such a proceeding was fully considered, but it was decided that to introduce another set of tents, let the patient come out of the anæsthesia, and wait for their slow dilatation, would be the greater evil. Before and after the incision the parts were thoroughly disinfected by injections of a permanganate-of-potash solution. The same polypus forceps was now more readily introduced into the cavity and the mass broken up. This was followed by a profuse, thin, bloody, purulent discharge of the most fœtid character. An injection of the permanganate solution was now made into the cavity of the uterus until it returned unchanged, when another effort was made to remove the contents. After working for more than half an hour, only a part of the product was withdrawn. At this stage of the operation considerable hæmorrhage occurred, and this was increased with each endeavor to dislodge the mass from its nidus. For this reason, and because the patient was becoming weak (she had now been under ether one and a half hours), it was thought prudent to discontinue further efforts for the present, and to depend upon antiseptic injections and contraction of the uterus to remove the remainder; or at least to allow the patient to recover from this desperate condition, and gain strength to stand a second effort after the mass had undergone further disintegration. There was also a fear of rupturing the cyst containing that portion outside of the uterine cavity by further efforts. The patient came out of the anæsthesia slowly and in a state bordering on collapse, in which condition she remained for nearly twenty-four hours, when she gradually reacted. During the next four days there was a very fœtid fluid discharged from the cavity of the uterus, together with some *débris* from the decomposing mass. The patient had to be removed from the ward on account of the odor. The treatment was supporting, with very frequent irrigation of the vagina and uterine cavity with antiseptic solutions.

On the fifth day after the first operation, the patient evidently suffering from septicæmia, and there being no marked effort on the part of the uterus to throw off the remains, she was again etherized, and another attempt was made to remove them. It was found that time had somewhat disintegrated the contents, and that therefore removal would be more easily effected. Bone after bone, and occasionally a piece of soft tissue, were withdrawn, until at the end of about an hour the cavity was almost entirely emptied. I say almost entirely, because it seemed impossible to get every small bone away, and for several weeks afterward an occasional bone was thrown off *per vaginam*. The cavity was thoroughly washed out with the disinfecting solution, and an examination was made to discover the seat and extent of the rupture. The cavity of the uterus was large and rough, and in the right side of its body there was discovered an opening through which two fingers could be readily passed into a cavity beyond. The recovery of the patient was slow, indeed her life was despaired of for weeks,

during which time she suffered from numerous pyæmic abscesses. One of these abscesses was post-ocular, and resulted in the loss of the eye. She finally left the hospital restored to health.

REMOVAL OF A MAMMARY TUMOR AND OF ENLARGED AXILLARY GLANDS; PRIMARY UNION.—Dr. W. H. PARISH exhibited the specimens, and read the following history: The patient from whom the specimens presented were removed is a lady of very slight stature, sixty-two years of age, and the mother of several children. There is no history of cancer in her family. About twenty-five years ago she noticed a hard lump in the axilla, of about the size of a partridge's egg, painless, though tender on pressure. It was first noticed during a period of lactation; subsequently she was again confined, and passed through the usual time of lactation with a slight increase only in the size of the axillary tumor. For about twelve years after the first appearance of the axillary tumor she never noticed a lump in the breast. About twelve years ago, however, she, for the first time, recognized the presence of a mammary mass, then of about the size of a partridge's egg. This was about the menopause; at that time she lost in flesh, though her general health remained good. The mammary tumor increased in size very gradually; continued free from pain except when something pressed unduly against it. About twelve months ago she thought the tumor had begun to increase in size a little more rapidly, and occasionally gave a sensation of soreness. This change in the tumor was ascribed by the patient to carrying a grandchild in her arms. At the time of the operation the tumor in the breast was of about the size of a small lemon, very hard and somewhat nodular, and was at the upper and outer border of the gland. It was perfectly movable over the pectoral muscle, and presented a distinct elevation above the general skin surface. The skin was not entirely movable over the mass, but was not hardened or otherwise altered in character. There was no nodular involvement of the integument. The superficial veins were not enlarged. The nipple was not retracted, but seemed entirely normal, and no fluid could be pressed out of it. There were three enlarged axillary glands, the largest very hard and a little larger than a partridge's egg. There was no enlargement of the glands above the clavicle. Owing to the long duration of the masses, their entire mobility, the freedom of the skin from nodular infiltration, the absence of retraction of the nipple and of oozing from it, and also owing to the evident atrophy of the mammary gland, I concluded not to remove the entire breast, but only the tumor, including those of the axilla, and to remove also the integument overlying the mammary tumor. This I effected by an elliptical incision, and then, extending the incision to the axilla, removed three enlarged lymphatic glands. It was not necessary to ligate any vessel; the oozing, which was not great, was stopped entirely by the use of hot water. The incision was about seven inches long. The edges were approximated by deep silk sutures. A few strips of rubber adhesive plaster were applied, and all was covered with a layer of salicylated absorbent cotton, and the chest surrounded with a flannel binder. This entire dressing was allowed to remain until the fourth day, when, on removal of the cotton, it was seen that primary union had been secured throughout the entire incision. There was neither hardness nor swelling to indicate inflammation. On the sixth day the sutures were removed, and on the tenth day the patient sat up. No medicine of any kind, not even an anodyne, was given during the entire treatment. The long duration and small size, the normal appearance of the nipple, the freedom of the skin from pitting and nodular infiltration, and the

mobility of the mammary tumor both over the pectoral muscle and on the mammary gland, have led me to hope that the growths are fibromata; but the enlargement of the axillary glands and their induration make me fear carcinoma.

Microscopical Examination, by Dr. Henry Beates, Jr.—The specimen presented by Dr. Parish is of unusual pathological interest. When it is remembered that the growth was present for nearly thirty years without undergoing a noticeable change, and only during the last year occasioned suffering and was accompanied with axillary involvement, the question of malignancy suggests itself, especially as the clinical history almost forces the diagnosis of adenoma. As many representative pathologists incline to the belief that typical mammary adenomata do not undergo carcinomatous degeneration, and many assume a conservative or non-committal position, this instance is of unusual interest, and demands close study. Sections were made through the mass, and including the cutaneous surface. The skin, so far as the stratum corneum and rete mucosum are concerned, is normal, but in the corium there are areas of inflammatory changes. The radicles of several of the vascular papillæ are choked and surrounded by numerous embryonic cells and inflammatory corpuscles. The larger vessels are in a like manner involved, and the tissue in their immediate proximity is infiltrated. The pars reticularis, where it becomes continuous with the subcutaneous connective tissue, is in many places the seat of proliferated connective-tissue corpuscles. The glandular structure shows beautifully its purely adenoid character. The acini, although filled with cells and almost hidden from view, are with care easily distinguished. The interacinous connective tissue is hyperplastic. The hyaline membrana propria is partially destroyed, and the acini



1, epidermis (stratum corneum); 2, rete mucosum; 3, corium (pars papillaris); 4, pars reticularis; 5, inflammatory area in pars reticularis; 6, proliferated spindle-shaped connective-tissue corpuscles and hyperplasia of fibroid element; 7, infiltrating cells occupying interacinous lymph spaces; 8, acinus with partially destroyed membrana propria and free cells; 9, lymphoid cells and proliferated epithelium.

are filled with degenerated epithelial cells and cellular elements of increased size, possessing many nuclei. Some of the acini have the membrana propria entirely destroyed. The lymph spaces are occluded by cells, multi-nucleated, and of increased size and irregular contour. The interacinous fibroid tissue presents incipient formation of stroma and aggregations of cells.

The axillary gland is completely altered in its structure, and, instead of the mass of lymphoid cells occupying large spaces bounded by the characteristic fibrous stroma with its triangular basal form, we have typical carcinomatous structure. Fibroid stromata, joining at acute angles, forming numerous interspaces filled with irregular multi-nucleated cells, characterize the degenerated gland as carcinomatous. This fact, in conjunction with the changes seen in the mammary gland, proves conclusively that the breast tumor was originally a typical adenoma, which after thirty years began to undergo malignant degeneration and became a center from which the axillary glands were infected.

Dr. ROBERT P. HARRIS remarked that a point of great interest in the history of this tumor was the long period during which it remained dormant. He had had under observation a case in which a mammary tumor had remained perfectly dormant for seventeen years, during which two pregnancies occurred. After the second labor the tumor commenced to enlarge and become painful; an operation for its removal was performed some months later, when it had attained the size of a duck's egg. A chain of nine enlarged glands was removed with the tumor. The tumor recurred in the same breast, and was followed by one in the other breast, and numerous hard nodular growths over the entire body. The patient's death was due to this cause. Two of her aunts had died of cancer. A sister had a tumor in the abdominal wall, which was allowed to attain the size of a door-knob without interference. At that time Dr. Agnew and other surgeons were opposed to an operation. After a year the tumor commenced spontaneously to discharge a purulent matter. It was then successfully removed by Dr. Agnew, who pronounced it an encephaloid growth. It had made no attachments to the underlying vital tissues, and had since shown no signs of returning, two years having elapsed since the operation.

NEW YORK SOCIETY OF GERMAN PHYSICIANS.

A STATED meeting was held May 27, 1881, Dr. GRUENING in the chair.

HEREDITARY SYPHILIS.—Dr. KLOTZ presented a young man whose face, neck, back, and thorax were covered with numerous ulcers and cicatrices. A large and soft gummatous swelling was prominent in the skin over the left scapula, and the left side of the thorax was entirely taken up by a diffuse gummatous infiltration. Although, on inquiry, a history of syphilis could not be made out, Dr. Klotz assumed the case to be an instance of "syphilis hereditaria tarda." Oganieur claimed that, in this form of hereditary syphilis, the nervous system and organs of special sense were usually the seat of disease. In the case presented, there was no indication of nervous disorder, and the patient's teeth did not show the peculiar notched appearance usually attributed to congenital syphilis; at the same time it was but proper to state that little reliance could be placed upon this peculiar dental malformation, as indicating syphilitic taint. The CHAIRMAN remarked that parenchymatous keratitis usually occurred in individuals suffering from congenital syphilis, and that in all such cases which had come under his notice he had found notched teeth.

OSSEOUS PARTITION IN THE LEFT NOSTRIL.—Dr. BRANDEIS presented a young girl who had never been able to breathe through her left nostril. After the removal of several small polypi, a bony partition traversing the meatus was dis-

covered as the cause of the obstruction. After perforating this osseous lamina by means of the galvano-cautery, the patient experienced no more difficulty in breathing through the nostril. Luschka had reported two such cases, both congenital, in which the osseous partition had its origin from the hard palate.

BRAIN SYPHILIS.—Dr. BRANDEIS also presented a young man with the following history: Six years ago he had contracted a chancre, and numerous cicatricial spots on his body gave unmistakable evidence of a former gummatous ulceration; the patient also complained of general rheumatic pains. About six months ago he had had an epileptic seizure, and subsequently two more such attacks. At the time of presentation the patient complained of deafness and vertigo. On examination, both ears were found affected with otitis media, and this condition was associated with almost absolute deafness. In walking, a lack of co-ordination of movements of the patient was noticeable. ===== The case being referred to Dr. G. W. JACOBY for treatment, great improvement had taken place under the administration of iodide of potassium. The hearing became much better, and the patient could walk for some distance with closed eyes. Dr. Jacoby believed that this was a case of brain syphilis, and not a disease of the labyrinth, for which it might be taken. He was inclined to locate the lesion in the rhomboid fossa, near the exit of the acoustic nerve. ===== Dr. SEESSEL remarked that it was not warrantable to locate the disease as above stated, for no functional disturbance of the pneumogastric, hypoglossus, and glosso-pharyngeal nerves was present, which took their origin near the rhomboid fossa. ===== The CHAIRMAN remarked that bilateral otitis media was by no means rare, and, if accompanied by disease of the labyrinth, all the symptoms in the case here presented might be accounted for, without the supposition of a central lesion. ===== Dr. ZINSSER answered that the latter view might be entertained were it not for the epileptic attacks, which were unmistakable evidence of brain disease.

GENERAL PARALYSIS OF THE INSANE.—Dr. SEESSEL exhibited, through the kindness of Dr. Gray, of Utica, a number of large photographs of transverse sections of the spinal cord, showing the characteristic changes in general paralysis of the insane, the pathological appearance of the so-called secondary degeneration, as also the idiopathic primary degeneration, being well marked.

A DILATOR OF THE CERVIX UTERI.—Dr. KUCHER showed a small, inflatable rubber bag, introduced by Goulet for the purpose of dilating the cervix uteri. It was to be pushed into the cervix by means of an elastic catheter, and then expanded by injecting a fluid. ===== Dr. JACOBI recognized this instrument as an old contrivance, formerly much used for plugging the nostrils in severe hæmorrhage. ===== Dr. GARRIGUES remarked that this instrument had been used years ago by Tarnier, of Paris, as a uterine tampon. ===== Dr. MENDE thought that tupelo tents were far superior to the rubber bag for dilating the cervix.

PROLONGED GESTATION.—Dr. MRAVLAG reported a case of prolonged gestation extending over a period of forty-six weeks. Slight labor-pains were experienced about the fortieth week. At the commencement of actual labor the fetus was alive, but when born it was dead. It proved to be a hemicephalus weighing twelve pounds, its length being twenty-three inches. It measured twelve inches from shoulder to shoulder. ===== Dr. NOEGGERATH stated that in Prussia three hundred days was considered by law the normal duration of pregnancy. Stein, D'Outrepont, and Killian had reported a number of cases of prolonged gestation.

PREGNANCY AND OVARIAN CYST.—Dr. NOEGGERATH reported the following

history: On examining the patient, a tumor was felt to the right of the umbilicus; by manipulating this tumor, distinct contractions were noticed. A fluctuating tumor similar in size to the other, and extending downward to the posterior cul-de-sac, was recognized on the left side. The attending physician twice introduced an aspirating needle through the abdominal walls into the cyst, but was not able to remove any liquid. Thereupon the punctured cyst gradually decreased, and it was assumed that, although solid parts could not be felt, the tumor on the left side might represent an extra-uterine pregnancy. Dr. Noeggerath now introduced a very fine aspirating needle into the tumor, and succeeded in withdrawing a liquid which proved to be ovarian fluid beyond doubt, thereby confirming the diagnosis first made. He attributed the negative result of the first puncture to the fact that the needle used had a sharp cutting edge, which was liable to produce slight hæmorrhage in passing through the tissues, and thus to become clogged with coagulated blood.

DIPHTHERIA.—Dr. CAILLÉ reported a case of diphtheria with the following history. A child, four years old, was brought to him for treatment on the 12th of May. Both tonsils were found covered with the characteristic deposit, the sub-maxillary glands quite large, temperature 38° C. Three days later the deposit was entirely gone, the glands not tumefied, temperature normal, the child apparently quite well. It remained well for five days. On the 20th of May Dr. Caillé was again requested to see the child on account of a "croupy" cough and difficult breathing. A careful inspection showed no trace of diphtheritic deposit, the temperature was again 38° C., the cervical glands not tumefied. His diagnosis was laryngeal diphtheria, and he was obliged to perform tracheotomy at noon of the same day. The child finally recovered. In this case the following seemed to be of practical importance: the patient was quite well three days after the first attack; at least a careful examination did not reveal the slightest symptom of disease. The diphtheritic deposit must, therefore, have descended into the larynx without producing a symptom, or a new deposit in a different spot have taken place, after a remission of five days. — Dr. BRANDEIS remarked that the laryngoscope would be sure to give evidence of such a deposit when situated low down in the pharynx. — Dr. CAILLÉ answered that he was not inclined to advocate a routine practice of examining unruly children with the laryngoscope.

Dr. A. G. GERSTER,

Secretary.

A STATED meeting was held June 24, 1881, Dr. SCHARLAU in the chair.

PARAPLEGIA IN CONSEQUENCE OF APOPLEXY OF THE SPINAL CORD.—Dr. RUDISCH presented a man, fifty years old, with the following history: Three years ago he contracted an ulcer of the penis, with subsequent cutaneous eruption. He soon recovered under treatment, and remained in good health until January 10, 1878, when he suddenly fell down, being unable to stand on his legs, and complaining of a burning sensation in the bladder. On the following day he was able to move his limbs slightly, but his urine had to be drawn by catheter; this condition remained for some time, the patient's bowels moving spontaneously about once in five days. His paraplegia improved gradually; in July of the same year he was able to dance; later on he suffered a relapse, and his symptoms had alternately improved and become worse up to date. His present status might be summed up as follows: Marked functional disturbance in both lower extremities, with occasional tonic and clonic spasms and tremor, the right

limb much emaciated. Formication and pain entirely absent; galvanic and faradaic reaction heightened; tendon reflex increased on right side. Dr. Rudisch remarked that this was a case illustrating a lesion of the cord. The sudden onset of the disease, the absence of premonitory symptoms, would indicate hæmorrhage into the substance of the cord—either primary hæmorrhage or acute myelitis with apoplexy. He was inclined to consider the symptoms due to apoplexy, with chronic myelitis of the anterior and lateral columns, in the lower dorsal region of the cord.===== Dr. JACOBI and Dr. SEESSEL said that they were inclined to interpret the symptoms differently. The marked improvement on the day following the attack made a diagnosis of apoplexy doubtful, as it took about five or six days to absorb a sanguineous extravasation. Dr. Jacobi thought that a complete arrest of the circulation, limited to a small territory, and probably due to specific endarteritis, might have caused the trouble. He had seen such cases—Heubner had reported a number of them—with and without premonitory symptoms. Wunderlich had of late published the history of such a case.===== Dr. KLOTZ remarked that specific degeneration of the walls of an artery, with consequent apoplexy, would sufficiently explain all the symptoms.

TRAUMATIC OPHTHALMOPLÉGIA.—Dr. GRUENING presented a man who had received a smart blow on his left eye during a fracas; the patient walked home, and there found that he was blind. On examination, the lids were much discolored, the upper lid paralyzed, and the bulb immovable; therefore there was paralysis of the motor oculi, abducens, trochlearis, and optic nerves. The pupil was stationary and large. On illuminating the right eye, slight reaction was noticed in the left pupil. The ophthalmoscope showed no internal changes. The diagnosis in the case was: fracture of the base of the orbital pyramid, with rupture of the optic nerve and compression of all the nerves passing through the superior orbital fissure. The patient received potassium iodide, with hypodermic injections of strychnia and faradization. At the present time the bulb could be slightly moved in all directions; but the pupil of the right side showed no reaction when the injured organ was illuminated. In answer to Dr. Jacobi's question as to the indication for strychnia in this case, Dr. Gruening said that a specific action on the retina had been claimed for this alkaloid; in his own experience he had not noticed very decided results in this direction.===== Dr. JACOBI suggested that strychnia might be of use in a later stage, to combat local anæmia. Fracture of the orbital pyramid was usually followed by atrophy of the optic disc.

ABSCESS OF THE BROAD LIGAMENT.—The specimen was presented by Dr. HEINEMAN. The patient was twenty years old, unmarried. A tumor appeared, without injury or exposure, about one year ago, in the left side, which grew larger and became painful. The patient was admitted to Roosevelt Hospital, and the diagnosis of pelvic cellulitis was made. The abscess was opened externally, above Poupart's ligament, and washed out. It discharged fetid pus, and occasionally traces of faeces. The patient died of asthenia. At the autopsy an abscess of the left broad ligament was found. It had ruptured at one point, and pus had escaped into the pelvic cavity, but was confined by adhesions. No communication between intestine and abscess was discovered.

RUPTURE OF THE HEART.—The specimen was presented by Dr. HEPPEHEIMER. The patient died suddenly, the left ventricle was found ruptured, and the whole organ was in a state of fatty degeneration.

ADENOMA OF THE BREAST.—The specimen was presented by Dr. JACOBI, having been removed by him from a girl aged sixteen. The tumor proved to be

a fibro-cysto-sarcoma weighing 545.0 grammes; the glands in the axilla were not affected.

ATROPHY OF THE FINGER NAILS.—Dr. SEESSEL reported the case of a child which had suffered from croupous pneumonia, and thereafter became afflicted with numerous abscesses. One large abscess, situated in the axilla, induced unguis atrophy of that side, by pressure. This was a trophic disturbance in contradistinction to vaso-motor alterations.

MORBUS MACULOSUS WERLHOFFII.—Dr. WALD reported this phenomenon in a man suffering from malaria. ===== Dr. OBERNDORFER had recently seen a case of purpura simplex during an attack of malarial intoxication.

Dr. A. G. GERSTER,

Secretary.

A STATED meeting was held September 23, 1881, Dr. GRUENING in the chair.

SANGUINO-CYSTIC MOLE.—Dr. GARRIGUES presented this specimen. The patient believed herself four months pregnant. When first seen there was an offensive greenish discharge from the womb, followed by the expulsion of a fibrinous mass larger than a man's fist. The interior of this mass or tumor was studded with numerous cysts filled with grumous blood and lined with a smooth membrane. The bulk of the mass appeared to consist of coagulated fibrin. There was no trace of fetus or placenta, and the patient was not syphilitic.

INTESTINAL OBSTRUCTION.—Dr. WENDT presented this specimen, with the following history: A young Mexican was suddenly taken sick on the 7th of September, complaining of severe pain in the bowels. He sought the advice of a medical countryman of his, who administered cathartics. His suffering increased, and another physician was called in, who recognized symptoms of intestinal obstruction. Laparotomy was proposed, but not undertaken, in consequence of rapid collapse under ether. The patient died on the seventh day after the attack. The autopsy revealed general septic peritonitis, the sigmoid flexure was found abnormally long, and from it a long fibrous band was traced to the inner inguinal ring. This band inclosed a round aperture, through which several convolutions of small intestine had found their way and thus become constricted. The doctor remarked that an early operation might have saved the life of the patient, although the enormously distended intestines would have made it extremely difficult to find the seat of stricture and to replace the prolapsed bowels. ===== Dr. JACOBI remarked that children, as a rule, had a very long sigmoid flexure. It was rare to find this condition persisting in the adult. In answer to Dr. Wendt's remark, he said that in all cases of obstruction the intestines were much distended, and that this condition did not contra-indicate operative interference.

SARCOMA OF THE TIBIAL NERVE.—This tumor was removed by Dr. GERSTER from the leg of a man; it was spindle-shaped, and about seven inches long; the fibers of the nerve spreading meridionally over the circumference of the tumor, the nerve itself was involved for several inches each way. The diagnosis in this case was somewhat obscure, as the neoplasm was deep-seated and but slightly sensitive.

LARGE EPITHELIOMA.—This specimen also was presented by Dr. GERSTER. The growth involved both lids, the conjunctiva, the sclera, a portion of the superior maxillary bone, and the right nostril, of a man fifty years old. All this was removed, together with the corresponding bulb. It was most fortunate in

this case that all the diseased parts could be removed, the cancerous infiltration not having penetrated far into the interior of the orbit, thereby giving a better prognosis than was at first anticipated.

MONSTROSITY.—Dr. MOELLER presented this specimen, which had required version and the forceps to extract it. It proved to be of the synkephalus and thorakophagus variety. The foetus had two heads, one and a half thoraces, one large abdomen, which was fissured, through which the liver and intestines protruded, eight extremities, and spina bifida.

PRIMARY SARCOMA OF THE LIVER.—This specimen was presented by Dr. SEIBERT. It had been removed from a man who had been sick about one year. A swelling was first noticed three months before his death. When first seen by the doctor there was percussion dullness ranging from the superior border of the fifth rib to three inches below the umbilical notch. The tumor at its most prominent point was so soft as to fluctuate, but nothing could be removed by aspirating. A sarcoma of the liver was suspected *intra vitam*, and found at the autopsy. The gall-bladder was changed into an offensive cheesy mass, in which over one hundred gall-stones of all sizes were found imbedded. The tumor itself, of soft and cheesy consistence, had almost completely destroyed the right hepatic lobe, sufficient healthy tissue remaining to form a covering or capsule which surrounded the neoplasm on all sides. The line of demarcation between diseased and healthy tissue was very distinct.

AUTOMATIC TRACHEAL RETRACTOR.—Dr. CAILLÉ exhibited a small apparatus which he had found useful when performing tracheotomy. The instrument consisted of a rubber band, to each end of which was fastened a short brass chain, and attached to the latter were two curved and sharp hooks. The chains were so adjusted that they could be lengthened or shortened at will, thus adapting the retractor to small or large necks. In performing tracheotomy, the surgeon was usually fortunate if one trustworthy assistant was on hand, who was expected to administer the anæsthetic, and assist about the wound as well. Now, if the patient was not well under the influence of the anæsthetic, or was in any way troublesome (as was frequently the case), the operator might not be able to proceed with the necessary ease and celerity. In such cases the automatic retractor would be of service; it would keep the edges of the wound well apart; it could be hooked into the fascia, as the several layers were divided, and, finally, into the tracheal wound. The trachea might be examined at leisure, and there need be no haste in getting the tube into its place. This little instrument might be used as a general retractor in operations requiring careful dissection in different parts of the body, but it was especially applicable to the neck. It could be obtained at F. Eissner's, 115 Third Avenue, N. Y.

OVER-DISTENSION OF THE STOMACH.—Dr. LANGMANN reported this case. The patient was troubled with dyspepsia and occasional severe cardialgia. During these paroxysms the peristaltic action of the stomach could be readily noticed through the abdominal walls, the contractions beginning at the pylorus, and proceeding toward the cardia. This phenomenon could be provoked by tapping the abdomen with the finger. The capacity of the stomach was five quarts; the introduction of a tube was invariably accompanied by vomiting. After once washing out the stomach, immediate improvement took place. Cases of undue and excessive peristaltic action of the stomach had recently been reported by Kussmaul.

LAPAROTOMY IN AN INFANT.—The case was reported by Dr. KUDLICH. An infant, two months old, became very restless during the night of the 21st of

September. Bloody stools were passed the next morning, and an examination with the finger revealed an invagination, which could not be reduced. Repeated injections were of no avail; the introduction of a catheter simply put the rectum on the stretch, reducing the invagination *en masse*. Dr. Jacobi was called in, and performed laparotomy. In opening the abdomen, the bladder was incised. During the manipulation necessary for reducing the invaginated colon, the serous coat was repeatedly torn, owing to the almost necrotic condition of the parts involved. The distended intestines had to be punctured in several places, in order to let out gas, and replaced in the abdominal cavity. An elastic catheter was passed into the bladder, and the vesical wound was left open. The child died five hours after the operation. Dr. Sands, of this city, had successfully operated in such a case some years ago.

Dr. A. G. GERSTER,

Secretary.

A STATED meeting was held October 28, 1881, Dr. KLOTZ in the chair.

TRAUMATIC PERIPHERAL PARALYSIS.—Dr. SEESSEL exhibited a man, forty-four years old, who had suffered a fracture of the zygomatic arch from a blow. He remained unconscious for ten hours, during which time a bloody discharge from the ear was noticed. The doctor saw the patient seven days after the injury, and recognized a paralysis of the facial, acoustic, and abducens nerves, and located the seat of lesion near the entrance of the facial nerve into the auditory canal, for the following reasons: 1. All branches of the facial nerve were affected. 2. The nerves affected showed no reflex action. 3. The muscles involved showed diminished reaction to the galvanic current. 4. Trophic disturbance was noticeable. 5. Secretion from sweat-glands was diminished. The slight muscular reaction to the galvanic current gave a prognosis not absolutely bad.

REMOVAL OF THE SUPERIOR MAXILLARY NERVE FOR NEURALGIA.—Dr. GERSTER showed a patient who had suffered from facial neuralgia for many years, probably induced by extreme degrees of heat and cold to which the man had been exposed by plying his trade as an oven-builder. In 1877 Dr. Mott divided the nerve, but the pain returned after a short time. In 1878 Dr. Hassloch gave large doses of salicylic acid and quinia with but temporary benefit. Subsequently Dr. Weir brought about a remission of three months by subcutaneous injections of $\frac{1}{16}$ gr. of aconitia, repeated every two hours. Dr. Gerster then proposed and performed Langenbeck's osteoplastic section of the superior maxilla, with displacement of that bone and removal of the nerve. Two incisions were made—the first along the lower border of the malar bone, beginning in the nostril and terminating at the middle of the zygoma; the second beginning at the nasal process of the frontal bone, following the lower margin of the orbit and joining the first incision on the zygoma. The masseter was dissected from its attachments, and the soft parts were separated from the bone as far as the pterygo-palatine fossa, and, by means of a key-hole saw, the superior maxillary bone was divided parallel to the hard palate and into the nose. The infra-orbital nerve was now exposed in the line of the upper incision, and cut through at its exit from the infra-orbital foramen; after this the eyeball was pushed upward, and, the key-hole saw being introduced through the infra-orbital fissure, the zygomatic arch was cut through. The floor of the orbit was now carefully chiseled through, care being taken not to injure the lachrymal duct, and, by introducing a lever into the cut in the malar bone, the excised piece of the bone was turned out, hinging upon its soft attachment to the nasal and frontal bones. Thus, the

nerve glided out of the infra-orbital canal, and was cut away at the foramen rotundum. The wound was now disinfected with an eight-per-cent. solution of chloride of zinc, the bone was replaced, superficial sutures were applied, and, after six weeks, the wound was healed. This method was preferable to the one practiced by Carnochan, as it gave ample room for manipulation, and a very clear insight.

LARGE RENAL TUMOR.—Dr. GARRIGUES showed a portion of a tumor removed by Dr. Thomas from a girl twenty-one years old. [See the Proceedings of the New York Obstetrical Society, "N. Y. Med. Jour. and Obstet. Rev.," Feb., 1882, p. 186.] The entire mass originated from the capsule of the kidney, the solid parts consisting of fibro-myxomatous tissue. — Dr. WELCH, who had also examined a part of the tumor, thought that it should be classed as a fibro-cyst, owing to the spontaneous coagulation of the liquid removed from several small cysts. — Dr. GARRIGUES replied that he had examined the contents of the large cyst, but had found no spontaneous coagulation; the liquid became solid by heating, and was not redissolved by acetic acid. — Dr. NOEGGERATH remarked that liquid taken from fibro-cysts would coagulate if mixed with fresh blood. Dr. Welch had probably examined such a specimen, which would account for the difference of opinion between the gentlemen. — Dr. GARRIGUES was positive that the liquid examined by himself did contain blood, but did not coagulate; and maintained, on the other hand, that the liquid of fibro-cysts would coagulate spontaneously without the addition of any other substance.

MALFORMATION IN A FŒTUS.—Dr. WETTENGEL showed a fœtus in which the frontal, parietal, and occipital bones were almost entirely absent. The brain was covered by a membranous sac, and the right foot was provided with six toes. The child lived twenty-four hours. — Dr. JACOBI said that malformations of this kind were probably the result of fœtal meningitis with effusion. If this resulted in complete atrophy of the brain, we spoke of anencephalus. If the rudimentary skull contained no brain matter whatever—only connective tissue and vessels—we had a pseudo-anencephalus. In the case presented we had a median septum, dividing the brain mass into two hemispheres, from which fact we might assume that the disturbance of the normal growth took place in the third month of utero-gestation.

DIPHThERITIC CYSTITIS.—Dr. JACOBI exhibited a membranous sac removed from the bladder of a man sixty-six years old, who died with symptoms of septic ulcerative cystitis. The patient had had urinary trouble for a long time; his urine was frequently very offensive, containing blood and pus. About five days before his death he suddenly collapsed. The doctor found the bladder well filled, and introduced a catheter, but succeeded in removing but a few drops of a greenish fœtid liquid. Assuming the presence of a malignant tumor in the neck of the bladder, he attempted to draw off the urine by puncturing above the symphysis pubis—again without success. At the post-mortem examination a thick membranous lining of the bladder was found detached, in the form of a sac, containing about a quart of urine. During life the beak of the catheter evidently passed into the space between the bladder and the membranous sac, which accounted for the unsuccessful attempts at catheterization.

INCARCERATED UMBILICAL HERNIA.—Dr. GERSTER showed a specimen of the colon transversum removed by operation from a very fat woman, sixty-six years old. Kelotomy was performed sixteen hours after the first symptoms of incarceration were noticed. Owing to the great thickness of the abdominal walls an incision about six inches in length was necessary. The constricted portion of the

gut was found necrotic, and the protruding intestine was cut away. The mesocolon was secured by three sutures, three small vessels were closed with catgut, and a double row of eighteen sutures (as advised by Lembert) united the two open ends of the intestine. The patient died twenty-six hours after the operation with symptoms of peritonitis and collapse. A post-mortem examination was not permitted.

Dr. A. G. GERSTER,

Secretary.

A STATED meeting was held January 27, 1882, Dr. LANGMANN in the chair.

LARGE RENAL TUMOR.—Dr. MEYER introduced a man, fifty-five years old, suffering from a large round tumor in the left hypochondrium. The patient, when a boy, had several attacks of intermittent fever, and since then had always enjoyed good health. Two years ago he was much troubled with pain in the lumbar region. Six months ago he had an attack of hæmaturia, followed by six or seven similar attacks, and since then he had lost about fifty pounds in weight. When the patient was first examined, the tumor was thought to be an enlarged spleen, but later developments in the case had changed the diagnosis to primary renal tumor, either sarcoma or carcinoma. In doubtful cases the colon symptom was a valuable aid to diagnosis. By inflating the colon *per rectum*, its position might be ascertained. If the descending colon took a position anterior to the tumor in question, the latter was not the spleen. ===== After examining the patient, Dr. JACOBI remarked that he could agree with Dr. Meyer as to the diagnosis, for there was a distinct tympanitic percussion sound above the tumor and below the spleen-dullness. He would attach no importance to the colon symptom, however, the intestine being usually compressed or agglutinated to neighboring organs, and, consequently, difficult to inflate. ===== Dr. GERSTER thought the position of the colon a valuable aid to diagnosis.

TROPHO-NEUROSIS.—Dr. SEESSEL showed a man who had suffered from periositis of the metacarpal bones some eight months before. Subsequently all the muscles of the forearm became atrophic, the phalangeal joints became tumefied and rigid, the finger nails discolored, and from the palm of the hand there was a continual exudation of very offensive sweat. Tropho-neurosis was not a vasomotor disturbance, and could be produced experimentally: 1. If the sympathetic was cut through we had peripheral hyperæmia. 2. Irritation of the sympathetic produced peripheral anæmia. 3. If the sympathetic was irritated in an animal which had been deprived of food for a time, we obtained the so-called tropho-neurotic changes. This phenomenon was also recognized by oculists. ===== Dr. KNAPP remarked that the so-called neuro-paralytic ophthalmia was not due to any pathological change or disintegration of tissue, but must be looked upon as a symptom of irritation. ===== Dr. GERSTER stated that tropho-neurotic changes had been observed after exsection of the elbow joint, in consequence of which the arm remained powerless, faradization and massage being of no benefit. For this reason König, of Göttingen, advised amputation instead of exsection in a certain class of cases. ===== Dr. RUDISCH stated that a large number of cases of muscular atrophy of traumatic and rheumatic origin had come under his notice at the German Dispensary in this city, in which active local treatment was generally sufficient to bring about complete restitution, or at least great improvement. In his opinion, the atrophic condition of the muscles in such cases was caused by a chronic inflammation *in loco*, and not by central disease. ===== Dr. KNAPP remarked that he entertained similar views.

MYELOID SARCOMA OF THE HUMERUS.—Dr. GERSTER exhibited a specimen of this sort, taken from a young man who had sustained a fracture at the elbow joint which healed in due time. Some months later the joint became enlarged and tender. An explorative incision revealed sarcomatous degeneration of the bone, and the arm was amputated.

ENLARGED BURSA.—The doctor also presented a cyst, which was situated directly over the tuber ischii, and had recently been removed. The bursa in this spot was probably the seat of an inflammation, which resulted in the formation of a thick-walled cyst.

CYST OF THE PANCREAS.—Dr. GARRIGUES gave a description of the structure of a cyst which weighed twenty pounds, and was removed from the abdomen by Dr. Bozeman. The tumor resembled a multilocular ovarian cyst closely; its liquid contents showed granular detritus under the microscope, but no cells. The tumor was situated on the surface of the pancreas. The uterus and ovaries were found in a normal state. The occurrence of a cyst in this situation was very rare.

ATMOSPHERIC OXIDIZERS.—Dr. CAILLÉ reported the particulars of an investigation now being made by Dr. J. Long, of Evanston, Ill., having for its object the quantitative determination of the active oxidizers of the atmosphere. Strips of paper, prepared with guaiacum, thallium oxyhydrate, and potassium iodide with starch, were exposed to the atmosphere for a stated time, and the change in color was compared with a scale of colors previously prepared. Such investigations were evidently of great importance, for the percentage of active oxidizers in the air must have a positive influence on health and disease in localities where much organic matter was left to decay and vitiate the air we breathed. The active oxidizers probably modified the severity and duration of epidemics of all forms of zymotic disease. Schönbein, of Basel, had always found "ozone" present in country air, and little or none in the atmosphere of cities. — The CHAIRMAN remarked that similar investigations had been made before, but the results had been indefinite and unsatisfactory, owing to the many disturbing elements in the air.

A. CAILLÉ, M. D.,

Secretary pro tem.

A STATED meeting was held February 24, 1882, Dr. MUNDÉ in the chair.

INTRA-CRANIAL SARCOMA.—Dr. GRUENING showed a brain taken from a man twenty-seven years old, who was admitted to the Mt. Sinai Hospital in June, 1881. The patient complained of headache, defective sight and memory, and dizziness. An examination revealed neuritis optica, partial paralysis of the left abducens nerve, together with partial aphasia. The man became totally blind, suffered hemiplegia of the left side, and died in a comatose condition. A tumor was suspected, and found at the autopsy. It was situated so as to compress the left frontal and central lobe of the cerebrum, including the island of Reil. It was a sarcomatous growth not involving the brain substance. Both eyes were examined, and the so-called papillitis was found in each one, being an inflammatory condition of the optic disc, in which the optic nerve was found intact. Von Graefe had theoretically explained this condition by assuming hyperæmia of the retinal veins in consequence of pressure on the cavernous sinus, *via* the superior ophthalmic vein. Inasmuch as the superior ophthalmic formed an anastomosis with the anterior facial vein, von Graefe's theory was evidently unsatisfactory. Schwalbe's explanation was based on the communication existing between the subarachnoid space and the lymph space of the optic sheath. An accumulation

of fluid would thus produce papillitis by pressure. In Dr. Gruening's case the nerve sheath was free from liquid. Benedikt attributed the production of papillitis to vaso-motor influence. — Dr. RUDISCH remarked that it was occasionally difficult to distinguish between apoplexy followed by encephalitis and cerebral tumor, the more so when headache and other cerebral symptoms appeared suddenly. It was also a well-known fact that the brain would accommodate itself to gradual pressure. He remembered a girl who was able to attend to her household duties up to twenty-four hours before death. The autopsy showed a large cerebral tumor and a recent apoplectic lesion. Dr. Rudisch thought that disease of the terminal nerve filaments, as in papillitis, was not at all rare, and cited trismus, tetanus, and reflex paralysis as examples. — Dr. GRUENING denied the analogy of papillitis to tetanus, etc., and stated that the terminal organ of the optic nerve was the retina, which was not changed.

LARGE CEREBRAL TUMOR.—Dr. CAILLÉ exhibited the brain of a woman thirty years old, the immediate cause of whose death was cerebral apoplexy. The patient was sick about eighteen months, complaining of constant and severe headache, dizziness, and a frequent desire to vomit. Inquiry and examination revealed strabismus, diminished sensibility on the right side, unsteady gait, partial aphasia, defective memory, voracious appetite, occasional elevation of temperature, and attacks of mania. The urine was normal in quantity and quality. At times, and for a week or ten days, she was apparently quite well, and did not complain much. Her death was quite sudden; the autopsy showed the suspected tumor to be located in the left hemisphere. It was a large sarcoma, extending the entire length of the corpus callosum, from the corpus striatum into the inferior cornu. In the center of this sarcomatous mass a recent hæmorrhagic clot as large as a walnut was found.

MYXOMATOUS POLYPS OF THE UTERUS.—Dr. TAUSZKY showed this specimen, which he had removed from the cervix uteri, its removal being accompanied by severe hæmorrhage. The doctor requested the gentlemen present to recite their experience with liquor ferri persulphatis as an hæmostatic in uterine hæmorrhage. — The CHAIRMAN remarked that the application of liquor ferri persulphatis to the cervix was regarded a safe procedure, but he believed that there was much danger in applying it in the cavity of the womb. A mixture of equal parts of glycerine and liquor ferri had been recommended instead.

CYST OF THE BROAD LIGAMENT.—The CHAIRMAN showed this specimen, which he had removed from a woman twenty-two years old. [See the proceedings of the New York Obstetrical Society, "N. Y. Med. Jour. and Obstet. Rev.," Aug., 1882, p. 165.]

CERVICAL SPONDYLITIS.—Dr. BRANDEIS spoke of a girl seventeen years old who suffered from chronic otorrhœa. She also complained of a pain in the throat, and, on examination, a small elastic swelling was detected posterior to the left palato-glossal arch. Periamygdalitis was suspected, and some relief was afforded by puncturing the swelling. Two days later a second puncture was necessary, upon which a few drops of pus escaped. The patient now complained of pain in the left shoulder, and severe pain on pressing upon the spinous process of the third cervical vertebra. The swelling, which was now quite large, was again punctured, and much pus was removed. A consultation was arranged with two eminent medical men. One gentleman pronounced it spontaneous spondylitis with retropharyngeal abscess; the second gentleman pronounced it an hypostatic abscess, taking its origin from the Eustachian tube. — Dr.

JACOBI thought that an ordinary pharyngitis or amygdalitis might lead to superficial caries of the vertebral body. If this view of the case were correct, the prognosis would be good.

A DOUBTFUL CASE OF SMALL-POX.—Dr. JACOBI reported a case of variola which he was unable to recognize during the first four days. A woman fifty-five years old was admitted to Bellevue Hospital some time previous, suffering from acute nephritis. After recovering from this attack, she was again taken sick with a chill; her body was profusely bathed in sweat and covered with a sudamina-like eruption, the face being free. Her temperature ranged from 101° to 105° F.; the urine contained albumen and renal elements. On the fourth day her face became covered with numerous pustules, not at all characteristic in appearance, but sufficiently so to establish the diagnosis. Dr. Janeway, Health Commissioner, had reported that similar doubtful cases were not rare.

INTESTINAL OBSTRUCTION.—Dr. SCHWEDLER gave the history of a man sixty-three years old who died from this cause. The patient was anæmic, and a sufferer from chronic constipation, and it was his custom to take a saline aperient once a week. On February 6th he complained of pain in the abdomen. Absolute rest, and the administration of ice and morphine, gave him relief. Two days later he vomited several times, and became collapsed, but rallied again under appropriate treatment. An obstruction in the superior part of the small intestine was suspected, although nothing definite was detected on a careful examination. On February 11th he vomited fecal matter, and soon died. At the autopsy Dr. Adler found the ileo-cæcal valve completely clogged up by numerous small lumps of hard fecal matter. The small intestine had a bluish-red color, the parietal peritonæum was of normal appearance; the visceral peritonæum was found in a state of acute hyperæmia.

A. CAILLÉ, M. D.,
Secretary pro tem.

A STATED meeting was held April 28, 1882, Dr. GRUENING in the chair.

SEVERE INJURY OF THE EYE.—Dr. FRIDENBERG introduced a young man whose right eye had been severely injured by the bursting of a soda-water flask. A penetrating wound of the sclera was noticed, beginning at the corneal margin and running horizontally backward; this wound was one centimetre and a half in length. A second and smaller cut extended for half a centimetre in an upward direction; some vitreous had escaped; the upper lid was also slightly injured. After disinfecting the eye with a concentrated solution of boracic acid, the wound was closed by silk sutures, atropia was instilled, and a dressing of absorbent cotton was applied. Seven days later this dressing was removed, the sutures coming away at the same time. On the tenth day after the injury the patient indulged in too much exercise, and soon complained of pain. Upon examination, the wound was found open at one place and the vitreous again prolapsed; cyclitis was also present to some extent. The eye was once more dressed in the same manner as before, and healed up without further trouble. At present the patient could see fairly well. Symblepharon and hypermetropic astigmatism were present to some extent, due to the cicatrix; slight cloudiness of the vitreous still persisted. The patient could see $\frac{1}{4}\%$ without correction— $\frac{2}{3}\%$ with correction. The result achieved in this case was noteworthy, and would probably not have been realized previous to the introduction of the antiseptic method into ophthalmic practice. — The CHAIRMAN remarked that he knew of no case which

had given a better result. The sutures must be laid through the conjunctiva only, as was done in the case presented, and never include the sclera; the antiseptic method should be adhered to in all its particulars. ===== Dr. WELT referred to a similar case recently treated at Dr. Knapp's clinic, without antiseptic precautions, in which a very excellent result was obtained. ===== Dr. RUBISCH remarked that he was not prepared to place great reliance on the antiseptic virtues of boracic-acid solution. ===== The CHAIRMAN answered that Schmidt-Rimpler's experiments proved it to be an almost absolute protection against septic infection. He had practiced the antiseptic method for two years past, and was always confident of primary union in his cases. When we considered that suppuration of the eye meant, in many cases, loss of that organ, we might justly call the antiseptic method a great advance in ophthalmic surgery.

DIFFUSED ANEURISM.—Dr. MEYLAG presented a young lad who had injured his lower lip by falling, some ten years ago. It subsequently became inflamed, but healed up in due course of time. About six months ago a swelling was noticed in the lower lip, which had steadily increased in size, and was easily recognized at the present time as a so-called aneurisma cirsoideum. ===== Dr. JACOBI advised superficial cauterization as a therapeutic measure in this case, and hoped that the large pulsating vessels would be effectually obliterated without the use of the knife.

FIBROUS POLYPUS OF THE PHARYNX.—The specimen was presented by Dr. KUDLICH. It was removed from the lateral aspect of the pharynx of a child four years old. The patient had suffered for some time from putrid coryza and difficulty in breathing. The condition of the child became so alarming that death by suffocation was feared. The tumor was at first supposed to be an enlarged tonsil, but was finally recognized as a polypus, and removed, whereupon the little patient made a good recovery. Vogel and Häring had reported similar cases.

URETHRAL POLYPI.—Dr. KLOTZ exhibited a number of small urethral polypi removed by him with a wire snare, and partly by the aid of a modification of Gruenfeld's instrument, consisting of two tubes, one within the other, the outer tube having a fenestra at one end, the inner tube being provided with a cutting edge. The outer tube was first introduced, and, as soon as the polypus was recognized in its lumen, the inner tube was rotated forward, thereby severing the growth at its base. This instrument had the disadvantage of admitting insufficient light, but it was very safe, and not liable to injure healthy mucous membrane. It was to be obtained of F. Eissner, 115 Third Avenue.

BILATERAL HERPES ZOSTER.—Dr. ZINSSER reported this case. The patient was a young man nineteen years old. The attacks were quite frequent, and were regularly preceded by a peculiar train of symptoms similar to seasickness. Bilateral herpes zoster was very rare. Kaposi had seen but one case; two others had been reported elsewhere. Dr. Zinsser's patient was otherwise in good health, strong, and by no means hysterical; the eruption was attended with but slight local neuralgia. His disease was probably of central origin. ===== In discussing the different theories which had been advanced in explanation of herpes, Dr. JACOBI remarked that the symptoms in the case presented were probably due to some existing irritation in the vaso-motor center in the medulla oblongata.

FUNCTIONAL DERANGEMENT OF THE HEART.—Dr. ZINSSER referred briefly to another case which had lately come under his notice. A gentleman, forty-four years old, in good health, was suddenly attacked with distressing palpitation of the heart, without apparent cause, the pulse rising to 160 a minute. The pa-

tient was a moderate smoker and drinker. His urine was free from albumen at the time. Similar cases had been reported in which the heart's rapid action was due to mental excitement, or worms. ===== Dr. LANGMANN stated that this condition might be produced by the introduction of strong alcoholic beverages into an empty stomach. Such a practice was occasionally indulged in by army recruits in Southern Germany to deceive the examining physician.

IS RUBEOLA A DISEASE SUI GENERIS?—Dr. SCHARLAU asked the opinion of the gentlemen present as to the nature of that form of cutaneous eruption known as "rubeola." ===== Dr. ZINSSER believed that measles and rubeola were two distinct forms, independent of one another; the maculæ of rubeola were smaller and more prominent than those of measles. ===== Dr. JACOBI held the same opinion. The epidemic appearance of rubeola and the propagation of the same form from one person to another were sufficient to justify this opinion. ===== Dr. GARRIGUES held the same view, and stated that in measles the rash first appeared on the face as a rule, whereas the rubeolous eruption first showed itself on the trunk and extremities. ===== Dr. RUDISCH remarked that he was not prepared to accept rubeola as a new form of disease, for we found its epidemic appearance simultaneous with that of scarlatina and measles, and we knew that the latter frequently assumed strange and unusual appearances. He was inclined to look upon rubeola as a peculiar form of measles in which a pronounced catarrhal condition of the mucous membranes was absent. ===== Dr. GLUECK reported that in one family one child became sick with rubeola, and others subsequently contracted measles. ===== Dr. LANGMANN hoped that further discussion of this question might clear up the subject. He remembered one case of supposed rubeola complicated with rheumatic arthritis and endocarditis, and another with a diphtheritic deposit on the soft palate.

A. CAILLÉ, M. D.,
Secretary pro tem.

Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY.

No. XX.

By ANDREW F. CURRIER, M. D.

OBSTETRICS.

1. CROOM, J. H.—Quarterly Report of the Royal Maternity and Simpson Memorial Hospital. "Edinb. Med. Jour.," June, 1882.
2. NEVILLE.—Causation of head and other presentations during labor. [Obstet. Soc. of Dublin.] "Brit. Med. Jour.," June 3, 1882.
3. BRAUN, C.—Measurement of pelvic diameters. [Vienna Gen. Hosp.] "Med. News," June 17, 1882.

4. KENNEDY, W. J.—Case of pregnancy in a woman at the age of sixty-two. "Edinb. Med. Jour.," June, 1882.
5. TAYLOR, W. H.—What should mark the termination of the first stage of labor? "St. Louis Courier of Med.," June, 1882.
6. GRESLOU.—D'une colorisation particulière du liquide amniotique dans le cas de macération fœtale. "Jour. de Méd. de Paris," June 10, 1882.
7. REIGNIER.—Observation curieuse d'accouchement; présentation de la tête avec menace de sortie par l'anus. *Ibid.*, June 3, 1882.
8. HORNE, A. J.—Accidental concealed hæmorrhage. [Dublin Obstet. Soc.] "Dublin Jour. of Med. Sci.," May, 1882.
9. TARNIER.—Considérations sur le forceps. Communication faite au Congrès Médical de Londres, et suivie de quelques notes complémentaires. "Ann. de Gynéc.," June, 1882.
10. CHAPMAN, E. N.—Steatomatous tumor obstructing labor. "Va. Med. Month.," May, 1882.
11. MANN, J.—Dekapitation mittels Ektraselement. "Centralbl. f. Gynäk.," May 27, 1882.
12. REISZ, J.—Beitrag zur Behandlung einer Uterusruptur während der Entbindung. "Wien. med. Woch.," June 3, 1882.
13. SPAETH and BRAUN.—Four Cæsarean sections. [Allg. Krankenhaus, Wien.] "Phila. Med. Times," June 17, 1882.
14. DOZZI, G.—Storia di una amputazione utero-ovarica per ristrettezza pelvica. (Operazione del Porro.) "Gazz. Med. Ital.-Prov. Venete," June 3, 1882.
15. MANN, M. D.—Rupture of the perineum in labor; its prevention and treatment. "Buffalo Med. and Surg. Jour.," June, 1882.
16. HART, D. B.—Note on a unique cause of delay in the third stage of labor. [Obstet. Soc. of Edinburgh.] "Edinb. Med. Jour.," June, 1882.
17. WOLCZYNSKI.—Ueber Anwachsung der Placenta und der Eihäute. "Centralbl. f. Gynäk.," June 3, 1882.

4. Dr. Kennedy narrates a case of pregnancy at the age of sixty-two. This was the twenty-third pregnancy, the patient having been regular for the most part in her menstrual history. The labor went on naturally, the child was a well-developed male of good size, and five minutes after its birth the placenta was expelled. No accidents followed. The author thinks the case is an important one from a medico-legal point of view, bearing upon the question of legitimacy, and tending to determine the limit of the child-bearing age. Taylor gives two cases, the authenticity of which is admitted to be doubtful, where children were born of mothers respectively sixty-three and sixty-five years of age. Two cases are also recorded by Haller in which women respectively sixty-three and seventy years of age bore children. Between the ages of forty-seven and sixty-two the patient in question gave birth to six living children, and had one miscarriage.

8. A case of accidental concealed hæmorrhage was presented to the Dublin Obstetrical Society by Dr. Horne at the session of March 4, 1882. The patient was thirty-four years of age, had always been healthy, and was pregnant with her seventh child. Her previous

labor had been normal. She had aborted at the third month between the fourth and sixth pregnancies. She entered the extern maternity of the Rotunda Hospital, November 11, 1881, and was pale and weak, with a quick, small pulse, and moist skin, and was suffering from pain in the back, which also extended down both groins. The previous evening she had lifted a heavy piece of furniture. During the night she awoke with a feeling of weakness, and with pain in her back. Quickening had occurred at four and a half months, and foetal movements had been active the day previous to her admission. Upon examination, the cervix was found to be high and soft, the external os was patulous, the internal os was closed. No presentation could be felt, but a soft tumor filled the anterior cul-de-sac. A sound was passed into the uterus to the depth of nine inches, but no membranes were ruptured, nor could a foetus be felt. Examined externally, the uterus was found to be rotund, tense, and lying almost entirely to the patient's right side. No foetal parts could be felt; no sounds could be heard. By advice of Dr. Atthill, the vagina was plugged with carbolized cotton, and ergot was given internally. The next

day the patient felt better. A small quantity of bloody serum followed the removal of the tampon. The os was closed. The following day there were present pain, nausea, and vomiting. Labor-pains of a slight nature came on, the membranes ruptured, and in a few minutes a dead female child was born, the placenta following almost immediately. Pressure upon the fundus uteri expelled a large blood-clot. The patient made a slow but good recovery. This accident is quite rare, Dr. Braxton Hicks having collected twenty-three cases in 1860. Ten additional ones were reported by Dr. Burton in 1875. The author had found four others recorded since then. Twenty-three mothers had died, and all the children had been still-born. Spiegelberg reports one hundred and ten cases collected by Goodell and Hennig, in which fifty-six mothers had died, and all but seven of the children. The symptoms are general and local. The former are those which are well known in such accidents, without any external discharge, and the complete absence of true labor-pain. The latter are continuous stretching pain over the abdomen, pain on pressing any portion of the uterus, and continuous tense feeling of the membranes. In the diagnosis, the condition is to be differentiated from rupture of the uterus, or other abdominal viscus, and fainting. As to treatment, the author asked whether the membranes should be ruptured, and, this being ineffective, whether delivery should be accomplished either by turning, by the forceps, or by other means; or, as the other alternative, whether one should procrastinate, in the hope that the coagula in the uterus would prevent further hæmorrhage, remembering, too, that the uterus is in a state of tonic contraction. — The case excited the greatest interest. Dr. Kidd was in favor of rupturing the membranes, then dilating the os uteri and delivering as rapidly as possible. — Dr. Denham agreed with Dr. Kidd, and thought the fingers the most efficient dilators. — Dr. Atthill advocated the moderately slow excitation of uterine action, as less likely to be followed by hæmorrhage post partum, and preferred to take the chances of stopping the internal hæmorrhage by the employment of such means as were used by the author. — Dr. Macan agreed with Dr. Atthill, favoring the tampon to increase the intra-uterine

tension. — Dr. Doyle favored rupturing the membranes with multiparæ, since the over-distension of the organ paralyzed the muscular fibers. With primiparæ he would wait until uterine pains came on. — Dr. Dill remarked that, since the patients were usually suffering from shock and collapse, nothing should be done which could add to that condition.

9. M. Tarnier remarks that, useful as the *obstetric forceps* with the pelvic curve is, it is far from perfect, as has been demonstrated by Hermann of Berne, Hubert of Louvain, Chassagny of Lyons, and the author. Its two principal defects are: 1. Traction made upon the handles is far from being directed in accordance with the axis of the pelvis, and hence dangerous pressure is exerted against the walls of the pelvis. 2. The force is applied too far from the center of the head, and the forceps is transformed into a lever, whose power threatens the integrity of the pelvis whenever it is called to exercise any movement, whether from side to side, or from below upward, or the reverse. Hermann completed his forceps, which is entirely unpractical, by adding a supplementary piece, and operating as follows: He draws directly upon the handles with one hand, and, having adjusted the supplementary piece just above the articulation of the forceps, he presses forcibly upon it in a direction from above downward. When the head appears at the vulva, he adjusts the supplementary piece on the lower side of the handles, adjoining the blades, pulling in one direction from this point with one hand, while he continues to draw directly upon the handles with the other hand. Hubert has proposed two kinds of forceps, which draw directly in the axis of the pelvis, advising that they be seized as near the articulation as possible, that in this way the force may be applied close to the vulva. He went no further than to recommend this. Chassagny went only so far as to show the advantage of applying the force as near the center of the head as possible. The chief merit of the works of these men was to introduce the subject to the consideration of the thoughtful in the profession, which was a most important thing to do. The author's forceps rests upon the following four principles: 1. Direct traction in the axis of the pelvis. 2. Application of traction, as nearly as possible, to the

center of the head. 3. Allowing to the head, when seized by the instrument, the same mobility which it has in natural labor, and the accomplishment of the customary movements. 4. The possession of an indicator which shows the operator at each moment the successive movements of the head, and which guides him as to the direction in which he should exercise traction. The result of reflection upon these principles was the Tarnier forceps, first publicly described January 23, 1877. The principles upon which it is constructed the author thinks unimpeachable, but there are different ways of realizing them; hence the various modifications of the instrument. The original instrument was composed of two branches for grasping, with a perineal curve, and two handles for traction attached to the others as near to the blades as possible. The next year this design was modified by the author, the traction handles being adjusted below the articulation, and united with a movable handle. This modification was adopted by Lusk and Simpson. The perineal curve was next abandoned, because it rendered the instrument difficult of application and liable to slip, and because, when applied, according to the usual custom, upon the parietal bosses in head presentations, the convexity formed by the curve would be upon the right or left side of the pelvis, instead of being in the median line. The curve now employed is the ordinary one of Smellie and Levret, though the perineal curve is retained to a certain extent in the traction handles. Using these handles, one draws directly in the median line, though the grasping handles may deviate to the right or left, according to the position of the head when they were applied. The last modification is upon the traction handles. They are now furnished with a joint which acts as a pivot, and permits of traction exactly in the axis of the pelvis. With the instrument as now constructed, the proper movements of the foetal head at the various stages of its advance are not interfered with.

11. Dr. Mann proposes *decapitation by the use of the écraseur*. Braun's decapitating hook has received general preference to sharp instruments contrived for that purpose. Its use is not without danger to the mother, however, and may be a source of harm to the operator. These objections are avoided by the method of the écraseur. Simpson

and Braun both recognized the practicability of such a method, and Stiebel put the plan into actual operation. His method failed to receive general approval, because of the technical difficulties involved. The instrument suggested by the author is a modified Meadows's écraseur, with an untempered steel wire loop, preferably of piano-wire. There are eyes at each end of the wire, fitting into hooks when the former is adjusted, thus doing away with the necessity of winding it around the instrument as the loop is tightened. The loop passes through a slit in a cross-piece at the application end, and below the slit is a roller over which the wire draws, so that as the operation progresses the wire is prevented from kinking. This instrument was tried at the Buda-Pesth clinic upon a patient who had been in labor two days with her eleventh child when she presented herself. She was very weak, cyanotic, had hurried respiration, nausea, and vomiting. Upon examination, the labia were found to be swollen, and the child's left arm was at the vulva. The axilla was to the left, the scapula forward, and the neck was out of reach. The diagnosis made was, second transverse position, dorsum anterior; uterus ruptured, with the pelvis of the child in the abdominal cavity of the mother; diffuse peritonitis. Evisceration was first performed, and then decapitation. There was nothing peculiar in the method of applying the loop of the écraseur, and the instrument accomplished the desired end quickly and successfully. The placenta was easily removed, and the uterus contracted properly. After disinfection of the abdominal and uterine cavities, they were supplied with drainage-tubes, the vagina was tamponed, and the other usual steps after labor were taken. The abdomen was covered with ice-bags. The patient died in fifteen hours. The author is convinced that this method of decapitation is superior to all others.

12. In this case of *rupture of the uterus*, Dr. Reisz was called to the patient after she had been in labor eighteen hours. She was twenty-two years of age, had always been healthy, was married at seventeen. One year later she was normally delivered of a healthy child, and she was now pregnant for the second time. Five hours after labor began the waters had come away, two hours later the head presented, and

then the pains became less frequent and of shorter duration. The abdomen was greatly distended, and the slightest touch caused severe pain. The fundus uteri was felt just below the epigastrium, upon the right side. Just above the region of the os internum was a projection—apparently the child's head. Upon the left lateral wall of the uterus a depression could be felt, and at this point the pain was very severe. No heart sounds could be detected. A dark-blue, blood-stained upper extremity projected as far as the elbow joint from the vulva. The shoulder of the child was so firmly wedged into the pelvic outlet that the author could not pass his hand into the uterus. The woman bled freely at every attempt to move the fœtus. The decision to turn and extract was made, as being safer than decapitation. The patient was anæsthetized, and the fœtus was removed without much difficulty, but the operation was followed by free hæmorrhage. The placenta was adherent over a portion of its area, but it was entirely removed. The rupture was found at the point indicated by the external examination, and was large enough to admit three fingers. A two-branched drainage-tube was placed in this rent, and a lukewarm one-per-cent. solution of carbolic acid was injected into the uterus, until it came away only slightly tinged with blood. Carbolized cotton was placed over the external genitals, and a bandage was applied, to be kept cool with applications of ice. The ordinary antiseptic precautions were carried out, and in thirty days the patient was able to sit up, and to have the drainage-tube removed. A month later she was quite well, the uterus had undergone involution, the os was closed, and menstruation had taken place. The author praises the drainage theory as the cause of the successful issue in this case, and advises in all similar cases turning and extraction, to be followed by drainage, irrigation, ice applications, and bandages to the genitals.

16. Dr. Hart recently read before the Edinburgh Obstetrical Society a note on a unique cause of *delay in the third stage of labor*. The author was called to assist at a case of labor delayed by hydrocephalus. Upon arriving at the patient's bedside, he found the body of the fœtus, a small one, born, and the arms down. The head was arrested at

the brim. After perforation it was easily extracted. Shortly afterward the vagina was examined, but no placenta was found. Pressure upon the uterus failed to bring it forth. The patient was chloroformed, and the author passed his finger within the cervix. Guided by the navel-string, his fingers passed into a flaccid bag, upon the left side of the cervix, in which the placenta lay, and from which it was easily removed. The cause of this flaccidity was attributed primarily to the right obliquity of the uterus, then to the uterine contractions, which carried the enlarged head forcibly to the left, where it had lodged.

17. Dr. Wolczynski writes concerning *adhesions of the placenta and membranes*. He says that firm union of the membranes to the uterine walls is quite an extraordinary occurrence. He quotes Scanzoni as saying that he knows of no case of union by inflammatory adhesion of the membranes and uterus throughout. The author has seen a case where such a condition of affairs obtained, and he makes it the basis of his paper. The patient was thirty-five years of age, well developed, and of good constitution; she began to menstruate when fourteen years of age, and had progressed to her ninth and last pregnancy in good condition. During this period she suffered greatly from pains in the abdomen, especially upon the left side; she could not lie upon that side, nor turn over in bed. The feet and external genitals were swollen, and the face was puffed up. The fœtal movements were vigorous and painful. Poverty prevented her proper nutrition. Labor came on in due season; it was not very severe, and the child was born twenty-five hours after the pains commenced, in the second occipital position. Post-partum hæmorrhage followed, and the attendant midwife summoned a physician. He found the patient weak from loss of blood, and attempted to express the placenta by Credé's method. Failing in this, he introduced his hand into the uterus and found the membranes everywhere smoothly adherent to the walls of that organ. Attempts to peel them off produced further hæmorrhage, and obliged the physician to desist and send for the author. He found the patient suffering with the usual urgent symptoms of post-partum hæmorrhage. The diagnosis of his confrère was confirmed after manual exploration of the uterus. The placenta

was inserted upon the right side, near the fundus, and firmly adherent. Further hæmorrhage occurred in releasing its attachments, but this was checked by pressure. The greater part of the membranes was left *in situ*, since it resisted all the force which could be brought to bear to effect its detachment. Wine and ergot were given by the mouth, and orders were left to wash out the uterus three times daily with a two-per-cent. solution of carbolic acid. Chills, fever, and an offensive discharge were present the third day. The uterus was then washed out every two or three hours, and portions of decomposed membranes came away. The progress was normal from this point, although convalescence was slow on account of the poorly nourished and

weakened condition of the patient. The child was healthy, and caused no apprehension. The extensive adhesions were caused by endometritis, of which the pains during pregnancy gave evidence. The bladder was torn during labor, and not until the uterus was separated from its attachment to this viscus could it contract in its lower segment and expel the fœtus. In similar cases the author advises about the only thing which could be done under the circumstances—viz., peeling off the membranes with the finger nails, if possible; otherwise leaving the case to nature, if the attachments are too firm, and washing out the uterus frequently with carbolized solutions, always bearing in mind the danger of carbolic-acid poisoning.

GYNÆCOLOGY.

1. PUREFOY.—On some cases of noma pudendi. [Obstet. Soc. of Dublin.] "Brit. Med. Jour.," June 3, 1882.
2. HANKS, H. T.—Operations for restoring complete lacerations of the female perinæum through the sphincter ani, and the subsequent management without constipating the bowels. "Med. Record," July 1, 1882.
3. WILLIAMS, J.—The natural history of dysmenorrhœa. [Obstet. Soc. of London.] "Brit. Med. Jour.," May 27, 1882.
4. GERVIS, *et al.*—The natural history of dysmenorrhœa. [Obstet. Soc. of London—adjourned debate.] *Ibid.*, July 1, 1882.
5. DAVY, R. B.—A fatal case of tetanus following the use of laminaria tents. "Obstet. Gaz.," June, 1882.
6. MACDONALD, A.—The causes, results, and treatment of lacerations of the cervix uteri. "Edinb. Med. Jour.," July, 1882.
7. TILT, E. J.—Trachelorrhaphy. "Brit. Med. Jour.," June 3, 1882.
8. JACKSON, A. R.—Emmet's operation, and what is thought of it in London. "West. Med. Reporter," June, 1882.
9. ADAMS, J. A.—A new operation for uterine displacements. "Glasgow Med. Jour.," June, 1882.
10. ATTHILL.—Hypertrophy of the uterus. [Dublin Obstet. Soc.] "Dublin Jour. of Med. Sci.," June, 1882.
11. SCHWARTZ, E.—De l'hystérectomie. [Rev. gén.] "Rev. de Chir.," June, 1882.
12. STEVEN, J. L.—On the pathological anatomy of tuberculosis of the Fallopian tube. "Glasgow Med. Jour.," June, 1882.
13. JESSETT, F. B.—Case of Battey's operation, or oöphorectomy, for severe dysmenorrhœa. [Erith Cottage Hosp.] "Lancet," June 3, 1882.
14. SMITH, J. G.—Eleven antiseptic ovariectomies. "Brit. Med. Jour.," June 3, 1882.
15. GILLETTE, P.—Cinq cas d'ovariotomie.—Quatre guérisons. "Union Méd.," June 11, 13, 1882.
16. ELSENER, F. W.—On dermoid cysts, especially those of the ovary. "Dublin Jour. of Med. Sci.," May, 1882.
17. MURPHY, J.—On the treatment of a diseased ovary by ligature. "Brit. Med. Jour.," July 1, 1882.
18. BANTOCK, G. G.—Ovariectomy. [Letter.] "Lancet," June 3, 1882.

3, 4. Dr. John Williams read a paper before the Obstetrical Society of London May 31, on the natural history of dys-

menorrhœa, dwelling upon the following points: 1. It should be studied first under the least complex conditions in

single women. 2. With single women it is almost invariably primary—i. e., it appears with the establishment of the menstrual function. 3. Rarely it ceases spontaneously a few years after puberty. 4. Marriage, if sterile, often aggravates the trouble. 5. Child-bearing cures many cases. 6. The proportion of fertile to sterile women with the trouble is one to twelve. 7. Menstruation begins at about the average age with London sufferers from primary dysmenorrhœa. 8. Menstruation is regular in about two thirds of the cases. 9. The menstrual fluid is profuse in two fifths, scanty in one half, and has clots or shreds in three quarters of the cases. 10. The changes in the fluid in the course of dysmenorrhœa can not at present be classified. 11. The uterus is imperfectly developed. It may be too short, or too small, or both. The cervix may be conical, and the os small and round. Stricture is rare. 12. The changes in the uterus are slight hypertrophy, erosion and eversion of the cervical mucous membrane, and catarrh. 13. The hypertrophy is probably the result of periodically increased muscular action. 14. Oöphoritis and perimetritis are possible consequences. 15. The menstrual pain is the result of spasm of the uterus. ===== Dr. Barnes admitted that imperfect development of the uterus was a factor in dysmenorrhœa. When pregnancy followed treatment for this affection, the uterus might be considered fairly developed. He thought Dr. Williams had underestimated the frequency of acquired dysmenorrhœa in single women. A narrow os externum and flexion were the two most frequent causes of the trouble. ===== Dr. Wynn Williams could not agree with the statement that displacements were not acquired in virgins. He thought ante flexion the most frequent and persistent cause of dysmenorrhœa, and this could only be cured by permanently straightening the canal. ===== Dr. Graily Hewitt had observed that general malnutrition, involving also the uterus, was accompanied by uterine symptoms. Flexions often occurred in such cases. ===== Dr. Graves thought the disease in single women was very commonly acquired. Child-bearing had a good effect usually, but, as a rule, the subjects were sterile. To say that the uterus was imperfectly developed in such cases was too absolute a statement. A common accompaniment of the dis-

order was stricture of the uterine canal, either actual or virtual. The most usual changes in primary dysmenorrhœa were thought to be corporeal hyperplasia, endometritis, and endotracheitis, oöphoritis also being quite common. The statement that menstrual pain was the result of spasm was thought applicable only to cases where there was obstruction. ===== Dr. Routh thought that obstruction in the uterine canal from swelling of the mucous membrane might occur at menstruation, and not exist at other times. Clots and membranes often caused obstruction and pain. He referred to a case in which secretions from the cervix and vagina were drawn into the uterine canal, thereby causing great disturbance. This was perhaps the explanation of intermediate dysmenorrhœa. He believed firmly in flexions and versions as causes of dysmenorrhœa, which the author of the paper did not admit. ===== Dr. Heywood Smith thought dysmenorrhœa only a symptom. The changes in the menstrual flow varied as the dysmenorrhœa was uterine or ovarian. In the majority of cases the uterus was of normal size. He thought erosion, eversion, catarrh, areolar hyperplasia, oöphoritis, and perimetritis were causes rather than consequences of dysmenorrhœa. ===== Dr. Galabin agreed that shreds were often found in the flow, and that they sometimes contained entire uterine glands. He thought the author should not ascribe the pain of dysmenorrhœa entirely to spasm, as that would exclude congestive dysmenorrhœa. He believed the secondary form of the disease not uncommon in single women. ===== Dr. R. T. Smith thought the lithæmic diathesis one of the commonest causes of the trouble. ===== Mr. Hopkins Walter thought acquired dysmenorrhœa very common in single women, and that it was brought on by sedentary occupations and by constipation. ===== Dr. Hayes had found the disease most common with a conical cervix and a small external os. He believed that this form of cervix was a continuation of the fetal condition.

6. Dr. Angus Macdonald contributes an article to the rapidly growing literature on *the causes, results, and treatment of lacerations of the cervix uteri*. With a full-sized child's head there must be more or less rupturing of the cervix uteri at the first labor. The upper part of the vagina and the perinæum suffer

similarly, but in most cases the rent is healed by nature. Without a doubt, operative interference is sometimes called for on both cervix and perinæum. He adds: "For the comfort also of hesitating operators, I am able to state that the operation upon the cervix is the much more easily performed of the two, and is likely to be much more frequently successful." [Of course this depends somewhat upon the variety of the operation upon the perinæum. With the Baker Brown operation, for example, we would agree with the author as to the frequency of successful operations. As to facility, we think most of the New York school of gynæcologists would consider the operation commonly performed (i. e., the one described by Emmet in his treatise upon Gynæcology) upon the perinæum far easier of execution than the one upon the cervix.] Ten very good cases are described where the operation was done with great relief to the patients. The results following lacerations of the cervix are detailed with a candor quite unusual in a British gynæcologist. As causes of laceration, he refers particularly to "the meddlesome application of obstetrical fingers in hurrying dilatation of a slow cervix, or in forcibly pushing the neck over the occiput during a pain." The old methods of attempted cure for hypertrophy and laceration of the cervix, such as amputation and the use of powerful caustics, seem strange in these days of more enlightened and less harsh practice. He agrees thoroughly with Emmet as to the need of preparatory treatment, disagreeing with Goodell, who would operate in the face of pelvic inflammation. The directions for the operation and for the after-treatment are mainly those given by Emmet. The paper was originally produced as a lecture to the students at the Edinburgh Royal Infirmary.

7. *Trachelorrhaphy* is the title of Dr. Tilt's article, and he leaves no uncertainty as to the position which he holds toward the operation. Its statements are rugged and forcible enough to be invigorating; it is, nevertheless, replete with inconsistencies and weak points of argument. The author thinks there is something too sensational in the manner in which surgical novelties are introduced by Americans, and that their fertility of conception, boldness of execution, and mechanical dexterity,

are only equaled by the marvelous surgical endurance of American women. He cites Sims's operation for dividing the cervix, the five hundred cases which Sims reports, and the subsequent labor of Emmet in sewing up more or fewer of them. This, he adds, led to a loss of faith on the part of the pupil toward his teacher, and to a conviction that he had made several great discoveries. These were, that "inflammation and ulceration of the cervix were nothing but the rim of the cervical canal everted by cervical laceration, and that all troublesome cases of enlarged cervix were nothing else but cervical laceration injudiciously patched up by nature with cicatricial tissue, and, lastly, he discovered the dangerous properties of this cicatricial tissue, and the urgency of cutting it out, to restore women to health." Like Sims's operation, this one was supported by *dazzling* statistics, "and yet," the author says, "they wonder at our being cautious after having been once bitten." Dr. Playfair's paper, recently read before the Obstetrical Society of London, "seems to have been partly written to soothe the feelings of our esteemed American brethren." Under the four following propositions he discusses the main points in connection with trachelorrhaphy: 1. The frequency and import of laceration of the cervix. 2. Cervical ulceration nothing but cervical ectropion. 3. The part ascribed to cicatricial tissue in uterine pathology. 4. Trachelorrhaphy as the only way to cure certain diseases of the cervix. As to the first point, he admits that unhealed cervical laceration plays an important part in the etiology of uterine disease. In regard to the second point, he thinks Emmet happy in denying the existence of inflammation in uterine pathology. He (Emmet) has taught the etiology of *some* cases of uterine ulceration by his explanation of ectropion, but he entirely fails to explain those cases occurring in single women, and married ones who have never been pregnant. The question is, Would Dr. Emmet do trachelorrhaphy upon such cases; if not, since their constitutional and local symptoms are the same as in most of those of actual laceration of the cervix, the question might logically be asked, Why perform trachelorrhaphy in the latter? The author says he should like to see the operation "reserved for a certain number of well-

defined cases." The operation has received the not very complimentary term, "*une débâuche chirurgicale*" on "the other side of the channel." [It may be well to remember that English and French surgeons were very good at *calling names* in the early days of ovariectomy. They have at least learned better in regard to that operation.] In discussing the third proposition, Dr. Tilt waxes enthusiastic on the way in which injuries are repaired by nature, observing that the pathologists bid us remark that cicatricial tissue is always analogous to the nature of the repaired tissue. [He forgets to add the equally important observation that it is always inferior in structure to the tissue which it replaces, as if nature were unable to reproduce any of her perfect *first attempts*. This point is fundamental, and his subsequent arguments upon this subject must be inconclusive without it.] He admits that too much cicatricial tissue in a cervix damaged by labor is to be taken into account in the etiology of long-standing cases of cervical enlargement, but he fails to say what he means by too much, or where the limit is between too much and just enough. He repeats what he has previously said in regard to the hardened tissue in the cervixes of some single and some sterile married women. [Dr. Emmet certainly does not claim that such women suffer from lacerated cervixes, and trachelorrhaphy was devised for those suffering this mishap. As to the fitness of the operation for any other conditions, that is not now under discussion.] Dr. Tilt refers to the paper of Dr. Pallen (whom he calls a pupil of Dr. Emmet), published in the "British Medical Journal" in May, 1881, to warn the profession of the danger from hæmorrhage after this operation. The article in question contains an account of a patient with whom this accident occurred, and concludes: "Fortunately her life was saved, and the operation succeeded." Dr. Tilt comments as follows: "Fortunately indeed! and it is also fortunate that we thus get a glimpse of the dangers attending an operation we are asked to perform if the womb be enlarged, and if there be neuralgia." As to the fourth proposition, he does not believe that trachelorrhaphy is the only means of cure for what he calls enlarged cacoplastic cervix, with ulcerative ectropion. His method of treating such a

case is, in brief, as follows: An intra-cervical incision is made, right and left, with a Sims's knife, a third of an inch deep, and an inch long on either side, the wound being allowed to bleed freely. [What is this but the very Sims's operation which he denounced only a moment ago, and in regard to which English gynaecologists must confess themselves "*bitten*"?] Three days later, having introduced a cylindrical speculum, if the portion of the cervix projecting into it be covered by sound mucous membrane, the epithelium upon it is rubbed off over a space as large as a shilling with solid nitrate of silver, and, on the following day, potassa fusca cum calce is applied to the same surface. The morning after "this little operation" a glycerine tampon is applied, which is repeated daily as long as the discharge is free. Ten days from the application of the caustic, tincture of iodine is freely applied, and this is repeated every third or fourth day for a month or six weeks, active surgical treatment ending here. The patient returns in from four to six months, and, if not already cured, the process is repeated. He says he has often produced radical cures by this method, and is happy to be in the company of Henry Bennett, Matthews Duncan, and others with whom the knife is not "the exclusive object of worship," as it is in America.

9. Dr. Adams proposes a *new operation for uterine displacements*. The tendency of recent treatment for such difficulties has consisted mainly in supplying pessaries of varied forms, which are in many respects objectionable, and often are of no service whatever. Prolapsus is sometimes prevented by operations which bring the walls of the vagina together, producing partial or complete occlusion. The operation which the author proposes consists in exposing the round ligaments where they are covered only by the skin, fat, and areolar tissue of the pubes, drawing upon them so as to raise the uterus, and securing their ends so as to cause them to form new attachments to the pubes. The operation was first performed by the author upon the living subject last February, and was unsuccessful. The author acknowledges that he has been anticipated in the publication of his views by Dr. Alexander, the operation having been worked out by each independently of the other. [For an ab-

stract of Dr. Alexander's paper, see the July number of this journal, p. 83.] For the past two years the author has frequently demonstrated the operation upon the dead subject. A full description of the organs and tissues forming the floor of the pelvis is given. The round ligaments are described with minuteness. [A full description of these ligaments appears in the August number of this journal, under the "Report on Obstetrics and Gynæcology."] As to the operation, he directs that an oblique incision, about two inches long, be made over the external inguinal ring, and that the fibers be dissected from the areolar tissue as they emerge from that ring. Care should be taken, in the dissection, to avoid the inguinal nerve. The fibers having been isolated, the ligament is to be pulled through the ring, as far as necessary. [He lays down no rule as to the extent.] The peritonæum is easily separated from the ligament; hence inguinal hernia is not likely to follow. Five or six catgut sutures should then be passed over and under the ligament, securing it to the surrounding tissue. The wound is then closed with additional sutures, except at the most dependent part. There is nothing peculiar about the after-treatment. The great difficulty is in isolating the extremities of the ligaments, in which statement Alexander concurs. The operation is unsuitable when large tumors are connected with the uterus, or when that organ has contracted inflammatory adhesions to neighboring parts. Previous careful examination is therefore necessary, and neglect in this respect resulted in want of success to the author in the operation which he performed upon the living subject. In that case the body of the uterus was firmly bound down by adhesions. He hopes to share with Dr. Alexander the merit of introducing a valuable operation to the notice of the profession.

10. Dr. Atthill presented to the Dublin Obstetrical Society, at a recent session, a specimen illustrating *hypertrophy of the uterus*. This condition, together with dilatation of the uterine cavity, was brought about by a stenosis of the cervical canal. The patient was a servant, forty years of age, a virgin, and had always suffered from dysmenorrhœa from the time that menstruation was established. As she grew older the periods became more painful,

and the loss of blood more abundant. From the latter cause she had become quite anæmic. When she presented herself at the Rotunda Hospital, a few weeks before death, the body of the uterus appeared to be about as large as a cocoa-nut; the os was hardly distinguishable, being pin-hole in size, and with difficulty admitted a small silver probe. This was passed to a depth of five inches. From the symptoms given, a diagnosis of fibroid of the uterus was made. The os was incised to a moderate degree, preparatory to future operations. A few days later the incision was extended to the os internum, and was followed by an abundant flow of muco-purulent fluid. Jaundice and constant vomiting followed in five days, and death resulted three days later. The autopsy showed localized peritonitis, and a greatly enlarged, hypertrophied uterus.——In the discussion of the subject, Dr. Purefoy suggested that septicæmia, following the incision, was probably the cause of death.

16. Dr. Elsner contributes an article on *dermoid cysts, especially those of the ovary*, which was suggested by a case of the kind occurring in his practice. The patient was sixteen years of age, and was admitted to the Adelaide Hospital July 28, 1881, suffering from severe dyspnœa, which had lasted three or four weeks. The abdomen was tense, and as large as it would appear at the seventh month of pregnancy, and fluctuation was manifest. The tumor had existed a very long time, but first caused trouble when the girl began to menstruate, at the age of thirteen. Soon after entering the hospital, she met with an accident, in the shape of a fall upon her side, and was afterward quite helpless, having lost control of her lower extremities, suffering constant pain, retention of urine and feces, and well-marked malarial fever. All efforts to relieve her were fruitless, and she died eighteen days after her admission to the hospital. The abdomen contained a yellowish foetid fluid, evidences of recent peritonitis, and a tumor growing from the left ovary "one and a half times as large as a man's head." There was a cavity in the tumor capable of containing two quarts, and from an opening in the wall the yellowish fluid referred to had poured into the abdominal cavity. Adhesions to the broad ligament existed, and the diaphragm, intestines, and

rectum were pressed upon. The tumor contained the elements of true skin, fibrous tissue, fat, cartilage, hair, sebaceous matter, and spicula of bone. An interesting series of remarks on the nature and structure of dermoids follows. The theories as to their origin are: 1. Excess of formative nîsus (Blumenbach). 2. Parthenogenesis (Waldeyer—now abandoned). 3. Inclusion of dermal structure, and pinching off of the same, during fœtal life (Heschl). 4. Fœtus in fœtu (Verneuil, Hüter). 5. Parthenogenesis and hyperchesis, especially for ovarian dermoids (Lawson Tait). As a summary, he states that we know, as a fact, that dermoids occur externally and internally where the epiblast dips down to meet the hypoblast, and where by grooved involution new bodies are formed, the testicle and ovary being first in order of such bodies; therefore, all dermoids are embryonal in their first structure. The existence of bone, muscle, and nervous matter in the genital dermoids is not remarkable, since all these layers of the blastoderm contribute to form the Wolffian body, from which the ovary and testicle are developed; consequently, cells of either layer may be pinched off in the invo-

lution process. Also, dermoids are innocent growths except in the ovary, where they are exposed to much irritation, and hence liable to become inflamed. Fœtal remains in the body of another fœtus are due to the action of a process analogous to that which obtains in dermoid cysts—that is, the inclusion of one ovum within another.

17. Dr. Murphy contributes a short note on the *treatment of a diseased ovary by ligature*. On the sixteenth of last January he removed a large multilocular tumor from the right side of a woman forty-two years of age, tying the pedicle with a silk ligature. The left ovary was of double the normal size, and contained several cysts. The ligament was so tense that a ligature could not be trusted were the ovary removed. A double ligature was passed through the ligament, and each side of this structure was tied as firmly as possible, after which the cysts were punctured, the cavity was cleansed, and the wound was closed, the entire operation lasting twenty minutes. The patient recovered, and was up on the twelfth day, having had no peritonitis or other complication. The author hopes that the ovary has been destroyed.

QUARTERLY REPORT ON GENERAL MEDICINE.

No. XI.

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2. LATTEY, A.—Report of a case of myxœdema. "Lancet," June 24, 1882.
3. FINLAYSON, J.—On the clinical history and diagnosis of hæmatoma of the dura mater. "Glasgow Med. Jour.," June, 1882.
4. STACKLER, A.—Contribution à l'étude de la pathologie du pneumogastrique à propos d'un cas de compression de ce nerf avec poulx lent permanent, crises épileptiformes et syncopales. "Rev. de Méd.," May, 1882.
5. LEMOINE, G., et LANNOIS, M.—Périméningite spinale aiguë. *Ibid.*, June, 1882.
6. LECOQ.—Étude sur les accidents apoplectiformes qui peuvent compliquer le début, le cours, la fin de l'ataxie locomotrice. *Ibid.*
7. BUZZARD, T.—On ophthalmoplegia externa in conjunction with tabes dorsalis, with some remarks on gastric crises. "Brain," Apr., 1882.
8. WEISS, N.—Zur Kenntniss der diastolischen Herzergeräusche. "Wien. med. Woch.," May 27, 1882.
9. HEITLER, M.—Ueber akute Herzerweiterung. *Ibid.*, June 3, 10, 1882.

10. SÉE, G.—Des pneumonies infectieuses. "Union Méd.," June 6, 8, 10, 1882.
11. VARIOT, G.—Du bruit de glou-glou provoqué dans certains cas de pneumothorax par les mouvements alternatifs de flexion et de redressement du tronc. "Rev. de Méd.," May, 1882.
12. BIANCHI, A.—La pettoriloquia afona nella tubercolosi. "Gazz. degli Ospit.," May 17, 1882.
13. GRANCHER, J.—De la valeur des respirations anormales dans le diagnostic du début de la tuberculose pulmonaire commune. "Gaz. Hebdom.," June 16, 1882.
14. STERNBERG, G. M.—Is tuberculosis a parasitic disease? "Med. News," July 1, 1882.
15. TROSSAT et ERAUD.—Recherches sur le rôle étiologique de l'ankylostome duodénal dans l'anémie des mineurs de St.-Étienne. "Lyon Méd.," June 18, 25, 1882.
16. TOSATO, E.—Sopra un caso di probabile anchilostomiasi. "Gazz. degli Ospit.," May 28, 1882.
17. SABOURIN, C.—Du rôle que joue le système veineux sus-hépatique dans la topographie de la cirrhose du foie. "Rev. de Méd.," June, 1882.
18. HANOT, V., et CHAUFFARD, A.—Cirrhose hypertrophique pigmentaire dans le diabète sucré. *Ibid.*, May, 1882.
19. CORNILLON, J.—De l'héméralopie dans les affections du foie. "Progr. Méd.," June 10, 1882.
20. PRINCE, M.—Pancreatic apoplexy, with a report of two cases. "Boston Med. and Surg. Jour.," July 13, 20, 1882.
21. FINNY, J. M.—A case of apparent recovery from morbus Addisonii. "Dublin Jour. of Med. Sci.," Apr., 1882.
22. RELIQUET.—D'anurie calculeuse traitée par l'augmentation de la tension du sang dans les artères du tronc. "Union Méd.," May 23, 25, 1882.
23. LANCEREAUX, E.—Les néphrites. *Ibid.*, May 13, 20, 25, 27, 1882.
24. DIEULAFOY.—Étude sur quelques troubles de la maladie de Bright. "Gaz. Hebdom.," May 19, 1882.
25. SMITH, W. G.—On the occurrence of protocatechuic acid in urine. "Dublin Jour. of Med. Sci.," June, 1882.

4. Stackler details an interesting case illustrative of the effects of *pneumogastric irritation*. In this case the right pneumogastric nerve was compressed by a dilatation of the aorta, but not to such a degree as to induce destructive changes in its substance. The symptoms of the lesion, which finally resulted fatally, are divided by the author into gastric, pulmonary, cardiac, and cerebral. Under the first head were included dyspepsia, nausea, and vomiting—symptoms which became more and more aggravated up to the time of death. The pulmonary lesions found on autopsy were emphysema of both lungs at the apices, embolism of the branches of the pulmonary artery, especially on the right side, and hæmorrhagic infarctions in the districts supplied by these occluded vessels. The symptoms corresponding to these changes were moderate constant dyspnoea and paroxysmal exacerbations in which there would be temporary arrest of the breathing, followed by slow, deep respirations. The cardiac and vascular

disturbances were signalized by the presence of a systolic murmur, audible at both apex and base; a permanently slow pulse; precordial pain, both constant and paroxysmal; and evidences of obstructed circulation in the right upper extremity and the upper portion of the right chest. The cerebral symptoms explainable on the ground of these circulatory disturbances were seizures, which appeared suddenly, and varied in degree from a transient vertigo or ordinary syncope to an attack of apoplectic coma or epileptoid convulsions. The author lays stress on a peculiar species of automatic crying which the patient indulged in at the moment of emerging from one of these attacks.

5. Lemoine and Lannois record a case in which, as the result of traumatism, a simple suppurative inflammation of the circum-dural spinal connective tissue, without any involvement of the meninges, occurred, and which went on to a fatal issue, with the development of symptoms of compression and softening of the cord. The authors were able

to find, in investigating the literature of the subject, an account of only one similar case.

6. Lecoq describes various *apoplecticiform symptoms in the course of locomotor ataxia*, which may be due either directly to the lesion of the cord itself, or to the cause producing that lesion; or, again, to an intercurrent disease. Such symptoms are vertigo, sudden temporary loss of muscular power, and loss of consciousness, with or without subsequent paralysis, and occasionally a fatal coma. These accidents may take place at any time during the course of the disease, sometimes being seen at its very beginning.

9. Heitler, in an important and suggestive article, asserts that *sudden and transient dilatation of the heart* is much more common than is ordinarily supposed. He recites a case in which, *in the course of five minutes*, the area of precordial dullness, as well as the circulatory and general symptoms, showed a marked alteration. Dilatation as acute as this, and with resulting serious symptoms, may occur in the more exhausting of the fevers, especially typhoid, in pneumonia, in Bright's disease, in chlorosis and anæmia, in endocarditis, and in valvular disease with existing chronic dilatation—in other words, in any condition in which the heart muscle is poorly nourished and relaxed. The symptoms of such dilatation are very marked, including a small, rapid pulse, with feebleness of the heart sounds, cyanosis, and jugular pulsation; dyspnoea, with physical signs referable to intense congestion of the lungs, and simulating very closely, and sometimes in rapid alternation, the evidences of a pneumonia or a pleurisy; and evidences of acute renal and hepatic congestion, together with general oedema. These symptoms, very puzzling while they last, frequently pass off as rapidly as they came; hence the importance of a guarded prognosis. The contraction of the heart may be stimulated in various ways, but prominently, Heitler thinks, by slight mechanical irritation over the precordium, such as is afforded by vigorous percussion.

10. Sée, in a very lucid exposition of the subject of *infectious pneumonias*, avows his belief that ordinary pneumonia is a purely local disease; but there are varieties of pneumonia which are of a constitutional origin. Such are those cases of the disease which pre-

sent a distinctly malarial type; others which, in their origin or progress, are allied to erysipelas; and the variety which is found associated with typhoid fever. There is also an epidemic form of pneumonia, and this is usually characterized by the following peculiarities: Assumption of an asthenic type; involvement of the apex, development in both lungs simultaneously, and progress from one part of the lung to another by a sort of serpiginous growth; the presence, almost invariably, of a concomitant pleurisy, and sometimes of pericarditis; the occasional association with jaundice; and the occurrence of lesions in other organs, especially the kidneys, liver, and spleen. Epidemics of pneumonia have occurred in camps, prisons, and villages, and are said generally to be traceable to defective hygienic surroundings. While believing that epidemic pneumonia is quite different from the ordinary sporadic variety, and supposing that it is due to infection of the system by a specific germ, the author does not allow that it is communicable from one individual to another. He rather holds that, when a number of cases occur simultaneously or in succession, they are due to the same cause operating upon all alike.

11. Under the somewhat barbarous title of *bruit de glou-glou*, Variot describes a peculiar sound appreciable both by auscultation and palpation, and occurring in certain cases of pneumothorax when the trunk is rapidly flexed and extended. It is quite different from the sound obtained on succussion, and is compared by Variot to the bubbling noise produced by pouring water rapidly out of a bottle.

12. The diagnostic value of *whispering pectoriloquy in pulmonary tuberculosis* is strongly insisted upon by Bianchi. Its presence is often sufficient to establish the existence of phthisical consolidation or excavation when the other signs are doubtful or absent, as when the process is in the initial stage, or when the other signs are obscured (by the rhonchial sounds of a general bronchitis, for instance). Moreover, the diagnosis between consolidation and excavation may be facilitated by the fact that, in the former condition, whispered words are often conducted much more distinctly to the listening ear than those spoken aloud, while the same rule does not hold good in the case of the excavation.

13. Grancher regards *the auscultatory signs of phthisis* as the most important of the various means of diagnosing this malady in the early stages. The signs upon which he lays the most stress are rude and low-pitched inspiration, jerking respiration, and feeble respiration. The first of these is the most important, because it is the earliest to appear, and is the most constant; and all these signs are diagnostic only when distinctly localized and permanently present. They are of little significance in those who have previously suffered from pulmonary or pleural disease; on the other hand, they are of considerable importance when occurring in young subjects in whom a phthisical diathesis is suspected.

19. The occurrence of *hemeralopia in diseases of the liver* has already been signalized by Parinaud and Monly; and now Cornillon, in addition to the other cases which he has described, cites three more which have lately come under his observation. He remarks that the coincidence, though common, is not so universal as to constitute hemeralopia as one of the regular symptoms of liver trouble; and he further says that, as a complication, it is found only in connection with a marked degree of jaundice, and, the latter being present, it may occur with the most diverse forms of hepatic lesion.

22. In cases of complete *suppression of urine during an attack of renal colic*, Reliquet recommends the application of an elastic bandage to both lower limbs, thereby enhancing the renal, along with the general, blood pressure,

and thus facilitating the secretion of urine and the expulsion of the calculus. He records one successful and one unsuccessful case, in which he followed this plan. He also recommends as a powerful auxiliary the employment of ice-water enemata, which exert a strong depressing action upon the portal circulation, and so assist in raising the blood pressure in the vessels of the general venous system.

24. Dieulafoy calls attention to some of the less prominent symptoms of *Bright's disease*, which are, nevertheless, of importance, since they frequently constitute the only evidences of the disorder at its beginning. One of these is pollakiuria, a word which the author has coined to express the occurrence of frequent desire to micturate with the passage of but a small total quantity of urine. This symptom may occur early or late in the disease, and may or may not be accompanied by pain in micturition. Another symptom of some importance is perversion of the cutaneous sensibility, such as severe pruritus, sense of a hair upon the skin, etc. Still another symptom is a feeling as if one or more of the fingers were dead, or sensations of numbness, formication or pain in the fingers, associated sometimes with pallor of the affected member. The author is inclined to think that many cases of so-called acute Bright's disease are only exacerbations in the course of a chronic affection, which has hitherto made itself evident only by some such obscure evidences as those which he has here detailed.

QUARTERLY REPORT ON MATERIA MEDICA, THERAPEUTICS, AND TOXICOLOGY.

No. X.

By GASPAR GRISWOLD, M.D.

1. DE WATTEVILLE, A.—On the electrical treatment of paralysis, and its rationale. "Med. Times and Gaz.," Apr. 22, 29, 1882.
2. CAMERON, C. A.—On the physiological activity of superoxidized molecules, especially of those of quinine iodate and bromate. "Lancet," June 24, 1882.
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4. COHN, M.—Die Wirkungen des Resorcin und seine Anwendung in der Kinderpraxis. "Arch. f. Kinderheilk.," iii, 7-8, 1882.

5. SEREINS.—Morsure de vipère : traitement par des injections hypodermiques d'acide phénique ; guérison rapide. "Union Méd.," June 29, 1882.
6. SMITH, R. S.—Remarks on codeia in the treatment of diabetes. "Brit. Med. Jour.," June 24, 1882.
7. LAW, W. T.—Sodium nitrite in the treatment of epilepsy. "Practitioner," June, 1882.
8. OWEN, W.—Report on the treatment of acute dysentery by aconite, based on one hundred and fifty-one cases. "Indian Med. Gaz.," Apr., 1882.
9. MACKENZIE, S.—On the treatment of chronic dysentery by voluminous enemata of nitrate of silver. "Lancet," Apr. 22, 29, 1882.
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12. MILLS, T. N.—Symptoms simulating those of angina pectoris, arising under the local application of ergotin. "Brit. Med. Jour.," June 24, 1882.
13. BARTH, H.—De l'utilité des injections sous-cutanées d'éther dans la pneumonie adynamique. "Gaz. Hebdom.," Dec. 16, 23, 30, 1881.
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1. De Watteville, speaking of the *electrical treatment of paralysis and its rationale*, divides cases of paralysis, according to their origin, into, 1, cortical ; 2, columnar ; 3, cornual ; and 4, peripheral. By *cortical* he means dependent upon lesion of the *cortex cerebri* ; by *columnar* he means dependent upon lesion of the white fibers connecting the *cortex cerebri* with the gray matter of the spinal *cornua* ; by *cornual* he means dependent upon lesions of the spinal *cornua* themselves ; and by *peripheral* he means dependent upon lesions of nerves anywhere beyond their origin. From another standpoint, paralyses may be di-

vided into *simple* and *atrophic* ; the former, for the most part of *cortical* or *columnar* origin, are not attended with marked degeneration of the muscles ; the latter, generally dependent upon *cornual* or *peripheral* lesions, are from the first attended with a conspicuous and rapid muscular atrophy. In the latter class the faradaic reaction is soon lost, although the wasted muscles may long continue to respond to the galvanic current.* Again, paralyses may be

* This loss of faradaic excitability with preservation of galvanic excitability is called the "degeneration reaction." It is observed

grouped as dependent upon injury, as fractures of the skull, meningeal thickenings, etc. Of course, the peripheral nerves are specially liable to injury; a variety of peripheral paralysis, the so-called "rheumatic," is dependent upon perineuritic pressure upon the nerve resulting from exudation poured out within the inelastic sheath. Many paralyses depend upon inflammation of nerve structures, sclerosis of the centers, neuritis of the peripheral nerves. Abnormal conditions of the circulation and blood-vessels are a common source of paralysis, viz.: thrombosis, embolism, calcification of arteries, etc. Lastly, there is a group of paralyses called "functional," comprising cases of so-called "reflex" or "hysterical" disturbances of innervation. The author calls attention to his view that although in the preceding classes of paralysis the physician is often obliged to give his first attention to the disease which stands in a causative relation to the symptoms, and to treat it medicinally, still he must not forget that electricity in many cases answers to the *causal* as well as to the *symptomatic* indications. He then discusses, first, the therapeutic difference between treatment *in loco morbi* and *in loco symptomatis*; and, second, the influence of the current directly upon the morbid process of the nerve tissues itself (inflammation, malnutrition, molecular disturbance, etc.), or upon the extraneous cause interfering with the function of the nerve (removal of effusion, etc.), or, again, upon the diseased portion of the nervous path through the restoration of the less affected elements that may subsist in it. There is no doubt that electricity exerts,

where the nerve endings in the muscle are degenerated. Faradization excites muscular contraction by stimulating the nerve fibers in the substance of the muscle; it has no effect upon muscles in which the ends of the motor nerves have been paralyzed experimentally with *woorara*, or have become degenerated as a result of injury or disease. Galvanization, on the other hand, has the power to excite the inherent contractility of the muscular substance itself; it can therefore still excite the muscles to contract after the nerve-endings have degenerated and faradaic excitability has been lost. Since faradaic excitability is preserved in *cortical* and *columnar* paralyses, and lost in *cortical* and *peripheral*, its persistence in a case of paralysis has a diagnostic as well as a therapeutic importance.

when properly applied, a stimulating effect on the process of nutrition. Pupils electrified daily increase in size more rapidly than they otherwise would. It also favors the restoration of healthy nutrition in structures whose vitality is impaired. It is quite conceivable that in this way electricity might affect diseased nerve structures favorably, not only by promoting the reabsorption of effusions and connective-tissue thickenings, but also by stimulating the activity of cells and fibers not yet the seat of change, but only functionally impaired by the proximity of morbid processes. Where the paralysis is functional, electricity often restores the equilibrium of nervous mechanisms whose operation has been disturbed by hysteria, or by the inhibitory influence of distant diseases. We often find in cases of hemiplegia a residual paresis which improves so rapidly under the influence of electricity that it is evident that the restoration of function has not kept pace with the reparative changes at the seat of the lesion. In such instances electricity arouses from a dormant state powers which seemed lost for ever. The author, in conclusion, calls attention to the fact that many of the best observers believe that a brain lesion may be benefited by the electrization of the muscles paralyzed in consequence of it. He does not attempt any explanation of this fact, but suggests that it is probable that the influence of the current may travel back through the nerves treated to the diseased tissue, and there stimulate repair. [It is to be observed that in this connection the author writes less clearly and positively than in other parts of his paper, and betrays a tendency to wander off to those incomprehensible subtleties and far-fetched arguments which seem always to find their way into the literature of electrical therapeutics.]

2. Dr. Cameron, speaking of the *physiological activity of superoxidized molecules, especially those of quinine iodate and quinine bromate*, says that these last salts contain large quantities of oxygen in a condition in which it is likely to act chemically upon the blood. Iodates and bromates may, after administration, be detected in the urine; but that does not clearly prove that they have existed as bromates and iodates during the whole of their sojourn in the system. In 1869 the author introduced ferrie iodate, instead of the unstable fer-

rous iodide, into medicine, and the salt was largely employed, and with benefit. More than a year ago he introduced two new salts—the iodate and bromate of quinine. They have been very largely sold in Dublin. The iodate has been found very valuable in sciatica, articular pains, malarial spleen, sluggish pulmonary congestions, and secondary syphilis. Iodate of quinine contains twenty-two per cent. of iodine; it dissolves in seven hundred parts of water, more freely in ether and alcohol. A brief reference was made to iodate of quinine by Sézallas, but no account is found of bromate of quinine. The latter is freely soluble in water, alcohol, and dilute acids, except nitric. It is fully as active as the iodate. Soon after the administration of iodate of quinine, iodic and hydriodic acids appear in the urine. The quinine also appears, but arrives somewhat later. [The author simply states that the salts described by him are efficacious; he gives no details, nor does he adduce any clinical evidence. Certainly, if they have been so much used in Dublin, some detailed account of their successful administration there would facilitate their introduction in this country. No mention is made of dosage.]

3. Drs. Biach and Loimann report the results of some investigations with reference to the *physiological action of chinolin*. Chinolin, as obtained from quinia and cinchonia, is said to possess properties somewhat similar to those of quinia itself. But the chinolin obtained from cinchonia (which was used in the investigations of Dr. Donath, and is most common) is not chemically pure, and is very expensive. A synthetical mode of preparing chinolin has been proposed by Skraup, as follows: A mixture is made of nitrobenzol, anilin, and glycerin; by the action of sulphuric acid this mixture is converted into chinolin. In formula we have $C_6H_5NO_2$ (nitrobenzol) + 2 C_6H_7N (anilin) + 3 $C_3H_5O_3$ (glycerin) = 3 C_9H_7N (chinolin) + 11 H_2O . Chinolin made in this way is very cheap, and is chemically pure; it was used in the present series of experiments. The experiments were made with a ten-per-cent. solution of the tartrate of chinolin. Dogs were used, and the medicine was given at times internally, and in other cases by subcutaneous injection. The temperature was taken with a thermometer introduced seven centimetres into the rectum. The result of these experi-

ments was the establishment of the fact that chinolin has undoubted antipyretic powers; the degree of antipyresis depends upon the size of the dose. A dose of a grain and a half of chinolin caused a fall of about one degree; this fall lasted about an hour, when the temperature began to rise again, and sometimes even rose above the point where it stood when the medicine was given. When larger doses were used, the temperature fell more, and stayed down longer. Frequency and irregularity of respiration were remarked, but they were attributed to the excitement of the animal at the pain of the hypodermic injection, since it was not more conspicuous after the largest doses than after the smallest. Toxic symptoms followed the use of doses of five grains and upward. When chinolin was administered internally, its action was the same as when it had been given by hypodermic injection, with the difference merely that it came on more slowly. Beyond the antipyretic influence, and the disturbing effect upon respiratory movements, which the authors attribute to pain during the experiments, no effects of chinolin are noticed in the paper. Its influence upon the heart is not mentioned, nor upon the secretions and excretions. Nothing is said of its use in the human subject.

5. Dr. Sereins describes a case of *snake-bite treated with hypodermic injections of carbolic acid*. The patient was a woman of forty, and was bitten by a venomous serpent well known in France, the fangs striking her just below the left external malleolus. A ligature was applied above the bite, and a compress wet with *aqua ammoniac* strong enough to blister was applied to the bite. It was two hours before the author saw her. She presented great prostration, with violent and almost continuous vomiting. The author injected a solution of carbolic acid (2 to 15) once into the bitten area, three times along the upper margin of the œdematous swelling, which reached from the bite nearly up to the knee, and gave an enema of the same solution. In an hour the improvement was marked. The author has treated many such cases, and is familiar with the symptoms. No treatment ever before gave him such satisfactory results. He reports this single case as one of interest.

6. Speaking of the treatment of dia-

betes with codeia, Dr. R. Shingleton Smith says that the discovery of glycogen by Bernard, and the demonstration of the connection of glycosuria with vaso-motor paralysis of the liver, and with irritation of the vaso-motor center in the medulla, suggest a scientific basis for the treatment of the disease. Glycosuria having been shown to depend primarily upon disease of the nerve centers, it is not a little interesting to observe that the drug which most controls it is one which affects the nerve centers more especially. Opium has been used empirically since the days of Aetius. Few will agree with Niemeyer that, "up to the present time, we possess accurate observations upon the alkaline carbonates alone which show a decided favorable influence upon the course of the disease." The cure at Karlsbad is advocated by Niemeyer as the prescription which merits the greatest confidence in this disease, and he mentions no other treatment. He does not believe in treatment based upon theoretical ideas; and he argues that opium has been given on the theory that it would diminish the irritability of the kidneys. The experience of our ancestors who gave opium in diabetes, in the form of theriaca Mithridatis; the advice of Willis, Prout, Darwin, Christison, Ormerod; and the more recent, and perhaps more accurate, observations of Pavy and Thompson, show that the practice is the result of well-established experience, and not of any mere temporary fashion or fancy. Dr. Lauder Brunton says that, under the influence of opium, the thirst diminishes, excretion of urine becomes correspondingly less, and the proportion of sugar contained in it falls. The weight of the patient ceases to diminish, and may even increase. Recent observers have not been content with this knowledge, but have tried to ascertain in which of the constituents of opium resided the controlling influence upon the disease. Morphia seems to act in a way similar to opium, and possesses no advantage over it. Codeia was first recommended by Pavy, and was preferred by him because it could be given in large doses without causing drowsiness. The question of dose is an important one. Some authors recommend small doses, but Dr. Brunton states that "diabetics bear large, and sometimes enormous, doses of opium and codeia; and, in administering these remedies, it

is well to push the dose until either the sugar disappears from the urine, or increasing drowsiness of the patient compels us to discontinue." The same author says elsewhere: "The two remedies which are most serviceable in lessening the excitability of the nerve centers in diabetes are opium and codeia; the latter may be given in doses of from a quarter of a grain to half a grain three times daily at first." Dr. Pavy gives a remarkable series of cases, in which daily records of the composition of the urine were kept, and in which sugar disappeared entirely under the influence of opium, morphia, or codeia, with the aid of restriction in diet. The drugs were given in gradually increasing doses: opium, one grain to nine grains thrice daily; morphia, up to three grains; and codeia, up to ten grains, three times daily. The great advantage of codeia over opium and morphia was found to be that, while it was equally efficacious in controlling the disease, it did not exert the same narcotic effect. When given in small doses to begin with, and steadily increased, nothing may be perceived beyond its effect upon the disease. Dr. Cavafy ("St. George's Hospital Reports") has reported a case in which he gave fifteen grains of codeine thrice daily with good results. Dr. Ord has reported the case of a woman, thirty-three years of age, a diabetic for four months, who gained seven pounds in one week with one grain of sulphate of codeia twice daily, after diet alone had failed to produce any good effect. Trousseau omits opium in the treatment of diabetes; he recommends alkalies. Budde states that alkalies do not diminish the excretion of sugar. Dr. Kratschmer has tested the relative merits of alkalies and morphia in this connection; he obtained no good results from the use of the alkalies, but was convinced of the efficacy of morphia. Carbolic acid, boracic acid, and the salicylates have been tried without any good results. It would appear that alkalies and all other methods of treatment are so far inferior to codeia that the latter may be considered to have an almost specific influence over the disease. Even dieting seems to sink into insignificance in comparison; in one case, given by Dr. Pavy, codeia alone was sufficient, without any restriction of diet. In spite of the fact that the utility of codeia is by no means

universally recognized, still it seems to deserve our confidence in the treatment of diabetes. The author gives detailed histories of three cases in his own practice, in which the patients all showed marked improvement under the influence of codeia, which improvement ceased when codeia was withheld, and was renewed on its repetition. Morphia had a good effect in two of the three cases, but the improvement was less marked with it than with the other alkaloid.

7. Dr. Law recommends *sodium nitrite in the treatment of epilepsy*. Since the theory that epileptic seizures depend upon cerebral anæmia, from vascular spasm, has been supported by the good effects obtained from the use of nitrite of amyl, the attention of the profession has been turned to the investigation of other drugs which have a similar influence upon the blood supply of the brain. Nitro-glycerin, in doses of one one hundredth of a minim, has been used, and is said to have effects similar to those of nitrite of amyl, only more persistent. Dr. Law now recommends nitrite of sodium in twenty-grain doses, claiming for it an effect similar to that of nitrite of amyl, only more persistent. The transiency of the influence of nitrite of amyl is a great obstacle to its systematic use. Dr. Law reports good results in one case. He believes that he is the first to use the drug in the treatment of epilepsy.

8. Dr. Owen reports the results of one hundred and fifty-one cases of *acute dysentery treated with aconite*. He was induced to look about for another treatment than the conventional one with ipecac, on account of the nausea which often attends the latter, and which often drives hospital patients, especially, to rebel against a repetition of the dose. Dr. Owen gave the tincture of the British pharmacopœia, which is of one sixth the strength of Fleming's tincture. He gave one minim every fifteen minutes for the first two hours; after that, one minim every hour. This would make thirty minims in twenty-four hours. Dr. Owen feels that his experience in one hundred and fifty-one cases justifies him in speaking quite positively in favor of the treatment. In his paper he gives a very good analysis of his results.

9. As a preliminary to the discussion of the *treatment of chronic dysentery with voluminous enemata of nitrate of silver*, Dr. Mackenzie expresses his be-

lief that the disease, whatever may have been its origin, is to be looked upon in its later stages as essentially an ulcerative colitis. It will be conceded that remedies given by the mouth can have but little topical effect upon the rectum. Any action, whether astringent, laxative, sedative, or alterative, has been squandered and dissipated on the comparatively unoffending tract of mucous membrane along which it has traveled before it reaches the part desired to be influenced. Opium does good through the nervous system, relieving tenesmus and termina. Laxatives remove scybalous masses that are a source of irritation. Ipecac seems to possess a specific influence, but its value is in acute attacks and exacerbations. All practical surgeons are assured of the beneficial influence of local applications of nitrate of silver, and other mineral astringents, to inflamed mucous membranes. With the view of rendering our practice in the treatment of dysentery more successful, and more in accordance with our procedures elsewhere, Dr. H. C. Wood, of Philadelphia, has suggested the use of voluminous enemata of nitrate of silver, so as to bathe the whole mucous lining of the colon with a solution of this salt. Enemata have long been recommended in this connection, but no one has hitherto so forcibly insisted that the enemata of nitrate of silver should be voluminous. Dr. Wood recommends as follows: "The patient should be brought to the edge of a hard bed, placed in a position somewhat resembling that for lithotomy, his buttocks raised on a hair pillow, in such a way as to elevate the pelvis and cause the injected fluid to flow naturally downward and inward. A well-oiled, smooth, somewhat flexible, hard tube, with openings at the side and a closed end (an œsophageal tube will answer well), must then be gently and slowly introduced from eight to twelve inches up the rectum. Through this the fluid may be slowly pumped in with a Davidson's syringe. A better plan is to unite with it a flexible rubber tube, in the end of which a funnel is inserted. This being elevated five or six feet, the water is poured in, and, by its own weight, with irresistible gentleness, forces its way into the gut. The liquid should be at the temperature of the body, so as not to excite peristalsis." Dr. Wood prefers nitrate of silver to other astringents; drachm doses have, in his experience,

never occasioned constitutional symptoms, while forty-grain doses and under have not accomplished much good. In one of the author's own cases, thirty grains of nitrate of silver, in three pints of water, caused the complete cessation of a dysentery that had lasted two years. This he regards as exceptional, and believes that, as a rule, at least a drachm of nitrate of silver to three pints of water should be used; and he has employed as much as a drachm and a half of nitrate of silver to the same quantity of water with a good result, and without danger. Dr. Wood discusses the possible effects of the application, for a longer period than occurs elsewhere, of so large a dose of nitrate of silver to an absorbent surface, but has never seen the slightest inconvenience arise from it. The author's experience is in accord with this. It is suggested by Dr. Wood that, in case of the enema being retained, and fear excited of toxic effects therefrom, a solution of common salt might be injected to neutralize the nitrate of silver. To avoid the danger of toxic effects, the author has tried per-

chloride of iron as an astringent instead of nitrate of silver; but he has not been able to secure the same good results, and has gone back to nitrate of silver exclusively. The author reports in detail five cases treated by him. These may be summarized as follows: 1. Dysentery of five months' standing, received one injection, under treatment eight weeks, cured. 2. Dysentery of two years' standing, received two injections, under treatment eleven weeks, cured. 3. Dysentery of two and a half years' standing, one injection, effect immediate, cured. 4. Dysentery of five months' standing, seven injections, under treatment six and a half weeks, cured. 5. Dysentery of three months' standing, received twelve injections, under treatment twenty-three weeks, cured. As regards diet, milk, with or without lime-water, beef-juice, and beef-tea, should alone be given in severe cases. When there is pain along the colon, small doses of Dover's powder, two or three times a day, should be given. Exposure to cold should be avoided; a flannel bandage may be worn about the abdomen.

QUARTERLY REPORT ON DERMATOLOGY, SYPHILOGRAPHY, AND GENITO-URINARY DISEASES.

No. XI.

By EDWARD BENNET BRONSON, M.D.

1. NAPIER, A.—On the use of chrysophanic acid internally in psoriasis. "*Lancet*," May 20, 1882.
2. TURNER, G. A.—One hundred and thirty-eight cases of amputation of the scrotum for elephantiasis Arabum? "*Glasgow Med. Jour.*," June, 1882.
3. GOWANS.—History of a case of myxœdema. "*Brit. Med. Jour.*," May 27, 1882.
4. PRINGLE, R.—Variola and vaccinia. [Letter.] "*Lancet*," June 3, 1882.
5. SWEETING, R. D. R.—Thirty-three cases of concurrent variola and vaccinia, with analysis and remarks. "*Brit. Med. Jour.*," June 3, 1882.
6. HARRIS, J. T.—A case of true vaccinia in a child, following the vaccination of the mother. "*N. E. Med. Gaz.*," June, 1882.
7. QUINQUARD, E.—Stomatite de l'hydroa ou hydroa buccal. "*Ann. de Dermat. et de Syph.*," May, 1882.
8. MORRIS, H.—Remarks on epithelioma and ichthyosis of the tongue, based on the records of seventy-five cases. "*Lancet*," May 13, 20, 27, 1882.
9. LEMOINE, G.—Ichtyose anserine des scrofuleux. "*Ann. de Dermat. et de Syph.*," May, June, 1882.
10. HUTCHINSON, J.—Clinical lecture on a remarkable case of lupus erythematosus. "*Med. Times and Gaz.*," June 24, 1882.
11. GUIBOUT, E.—De la sécrétion dans les maladies de la peau. "*Union Méd.*," June 25, 1882.
12. LOCKWOOD, C. B.—Effect of the rheumatic diathesis upon the initial lesion of syphilis. "*Brit. Med. Jour.*," May 27, 1882.

13. THIN, G.—On the treatment of chancre by glycerinum boracis. "Lancet," May 27, 1882.
14. POLIN, H.—Contribution à l'étude du rôle de la syphilis dans la vaccination; antagonisme du virus syphilitique et du virus vaccin. "Gaz. Hebdom.," May 12, 1882.
15. DIDAY, P., et DOYON, A.—Contribution à la doctrine de l'hérédité de la syphilis, par G. Behrend. [Rev. gén.] "Ann. de Dermat. et de Syph.," May, 1882.
16. SEMON, F.—On some rare manifestations of syphilis in the larynx and trachea. "Lancet," Apr. 1, 8, 15, May 13, June 3, 1882.
17. CHIARI, H.—Zur Kenntniss der Knochengummata. [K. k. Gesellsch. d. Aerzte.] "Wien med. Woch.," June 3, 1882.
18. TEISSIER, B.—Contribution à l'histoire de la syphilis du cœur. "Ann. de Dermat. et de Syph.," June, 1882.
19. FINGER.—Ueber Coincidenz des Erythema multiforme mit Syphilis. [K. k. Gesellsch. d. Aerzte.] "Wien med. Woch.," June 24, 1882.
20. GEFFRIER, P.—Contribution à l'étude de la cystite blennorrhagique. "Rev. de Chir.," June, 1882.
21. DIDAY, P.—Effet consécutif des injections uréthrales dans le traitement de la blennorrhagie. "Lyon Méd.," May 28, 1882.

1. In the treatment of psoriasis, *chrysophanic acid* is admittedly the most efficacious remedy we possess; there are, nevertheless, certain objections to it as ordinarily employed, which are by no means inconsiderable. Chief among these are its liability to cause severe cutaneous irritation, the staining caused by it of the skin, and its appendages—the nails and hair; and, finally, in the case of poor patients, the high cost of the drug. It is presumable that these objections would be obviated were it possible to obtain by the internal administration of chrysophanic acid the same therapeutic effects that follow its topical use. Napier gives reasons for believing that such in a measure may be the case. He entertains the opinion that much of the curative effect of the remedy in psoriasis, when rubbed into the skin, is due to a constitutional action following absorption. In support of this, he instances a case where, after chrysophanic-acid ointment had been applied to but one side of the body of a psoriatic patient, both sides were cured in about the same time. Again, he alludes to cases where the hair has turned to a darker hue during the use of chrysophanic acid on the skin. Napier was at first deterred somewhat from trying the internal use of the drug, owing to some alarming symptoms following the administration of three grains of chrysophanic acid in combination with jalap, described by Glaister, of Glasgow. Beginning, however, cautiously, with very small doses (small fractions of a grain), and gradually increasing the amount, he found

that two grains could be given with perfect impunity. Two and a half or three grains caused vomiting. It was found that when the stomach had once been affected by the drug, a less degree of tolerance was manifested afterward than before. Half a grain was regarded as a medium dose, which was gradually increased. It was best administered in powder with sugar of milk. [Why would not our "tablet triturates" be a good form?] Three cases of psoriasis are reported in which this treatment was tried, and others are alluded to that were not fully observed. The conclusion was that a decided effect was produced upon the disease by the internal use of the remedy, though less rapidly than when used locally. The former method especially recommends itself in cases where there is a very irritable skin, or where the expense of the drug is a serious objection.

3. Gowans describes a case of that rare and curious disease which has been named *myxedema*. The patient was a woman sixty years of age. She was at first supposed to have Bright's disease, though the urine contained no albumen or casts. After a time the hair disappeared almost entirely from the head and axillæ. The face "was swollen, broad, and expressionless." The swelling was greatest above the eyebrows and around the eyes, where it formed a translucent bag hanging beneath each eye. The face was pallid, with a red flush on either cheek. The lips were swollen; the speech was "slow, difficult, and interrupted by frequent efforts of deglutition." Saliva trickled

down the corners of the mouth when she spoke. From the nose there was a discharge of clear serum. There was considerable swelling about the back, most marked over the supra-clavicular triangles. "The hands were swollen, harsh, and livid, and did not pit on pressure." The feet were not much affected. The cutaneous surface was dry, and the hands and chest were rough, "like sand-paper." Around the middle part of the body there were "numerous brown warty spots, some of them as large as a sixpence." The hands felt stiff, and she could not "fathom her fingers"; was unable to pick up pins, etc. Generally there was a condition of hebetude. She understood questions, but the answers were "slow and ponderous." She "seldom took part in conversation unless directly addressed." The gait was "awkward and staggering," and she "could not walk without the aid of some one's arm." She complained of constant pain in the top of the head, and "if she turned her eyes upward she fell down." There was a continual sensation of cold. The disease was always worse in winter. It had continued for ten years. The writer accepts Ord's pathology of the disease—to wit, that "there is a great increase in the interfibrillar mucin—the yielding cement of the skin—which, padding the touch corpuscles and nerve ends, interferes with the ready reception of peripheral impressions. The brain, thus receiving sensory stimuli slowly and imperfectly, falls into a state of increasing torpor."

4. Dr. Pringle, Surgeon-Major of India, contributes to the "Lancet" a series of exceedingly important observations as affecting the question of the *relation of vaccinia to variola*. The writer's previous belief, that the two diseases were identical in their nature, has, in consequence of these observations, been completely reversed. He first inoculated three cows with small-pox virus. Up to the fifth day the local eruption produced had all the appearance of a successful vaccination. Then, suddenly, a change took place, and all resemblance to true vaccinia disappeared. The sores rapidly dried up, and, in eight days, all traces of local irritation were gone. An "irregular and totally uncharacteristic scab" fell off, when touched, leaving a perfectly healed surface. There had been "no trace of constitutional disturbance." Not con-

tented with these experiments, he next operated on seven calves, making two insertions in each with small-pox lymph in tubes, and two others with a solution made of variolous scabs. The tubes were filled with lymph from several different cases, in order to avoid any chance of the virus being inert. In all seven cases the result was negative, the same as in the case of the three cows. Finally, these seven calves, together with one of the cows previously operated on, were vaccinated with the vaccine matter in ordinary use, and in every case a well-marked cow-pox was the result. In view of these experiments, the writer's conclusion—that "cows can not be inoculated with small-pox by any of the means or methods at present in use for inoculating the human subject"—can scarcely be avoided. [It would appear as though the sores, which, in former experiments, have been produced in the human subject by the inoculation of matter from supposed variolous lesions in kine—that is, lesions produced in them by the inoculation of variolous matter—were simply poisoned wounds; and where, occasionally, true variola has resulted, it only implies that some of the small-pox virus has remained undestroyed in the animal's tissues, asserting its virulence as soon as conveyed to the susceptible human subject.]

7. The term *hydroa* occupies a somewhat indefinite position in the nosology of skin diseases. With many dermatologists it seems to serve the purpose of a convenient limbo, to which are consigned such vesicular diseases as can not readily be classified elsewhere. Bazin has not made the subject clearer by adding a vacciniiform and a bullous hydroa, one of which, according to Quinquaud, properly belongs to dysidrosis, and the other to pemphigus. Under the term *erythema multiforme* many writers, more particularly the Germans, describe a vesicular form, which answers tolerably to Bazin's simple hydroa. Quinquaud, in the article before us, calls attention to a feature of the disease about which comparatively little has been said—namely, the occasional implication of the mucous membrane. He describes an *enanthem* as well as an *exanthem* as pertaining to the disease. Bazin has only described a hydroa of the mouth, but Quinquaud has observed it upon the mucous membrane of the glans penis,

the labia minora, and the nostrils. In these situations it is not uncommon in infants, and the lesions occurring about the genitals and anus are liable to be mistaken for eruptions of syphilis. The writer describes four phases of the enanthematic lesions of hydroa: First, an "erythematous period," which is of but a few hours' duration, and which is characterized by roundish, oval spots or patches scattered over the mucous membrane of the mouth; they are common about the lower lip, and in the vicinity of the frænum, and also about the frænum of the tongue. Soon the superficial layers of the mucous membrane in the center of the erythematous patches are elevated by exudation, forming whitish or opaline spots, constituting what the writer terms the "erythematophlyctenoid" period. Next, the vesicle is eroded, and the "ulceration period" begins. In this the spots present an opaline, grayish, exuding surface, which bears a certain resemblance to the mucous patches of syphilis. The chief aim of the writer's article is to establish the differential diagnosis of the two diseases. The main points are that, in syphilis, the patches are less diffuse (more circumscribed) than those of hydroa; they

show less tendency to inflammatory reaction; moreover, the situation of the patches differs in the two diseases. In hydroa the little fissured lesions at the corners of the mouth, so common in syphilis, are generally absent. Finally, in cases of hydroa, the concomitant exanthem of the skin assists the diagnosis.

14. M. Polin, public vaccinator in one of the military districts of Algeria, writing of an antagonism between syphilis and vaccinia, records the singular fact that a very great proportion (48 out of 61) of children in which vaccination was unsuccessful proved afterward to be syphilitic, while in no case was this true of the 410 in which vaccination succeeded. The conclusion drawn by the writer from this is, that syphilitics are generally insusceptible to the vaccine virus. Though he admits that the instances of "vaccination-syphilis" that have been recorded imply that a syphilitic child has been successfully vaccinated, he, nevertheless, thinks that his 48 cases show that an antagonism between syphilis and vaccinia does exist. [In connection with the writer's results, it should be remembered that, among the Algerians, syphilis is an extremely prevalent disease.]

Miscellany.

THE NEW YORK CODE.—In its issue of June 26, 1882, the "Michigan Medical News" comments as follows upon the recent meeting of the American Medical Association:

"The proceedings reveal, we think, points which show the presence in the association of an element which, though 'crushed to earth, will rise again.' It is, for instance, idle to hope that the last has been heard of the New York movement, and we predict that the 'blood of the martyrs' will prove the seed of trouble for the association in the near future. We mistake very much the temper of the New York State Medical

Society, or at least that portion of it which passed the new code which was the cause of the exclusion of its delegates at St. Paul, if it has been effectually squelched by such exclusion. It is true the vote of the association excluding the delegation was very unanimous, and it is true, also, that, probably without exception, the State medical societies throughout the Union will indorse the action of the national body; but there has, nevertheless, been a wedge entered which persistent pounding will drive farther in each year until a split of some kind ensues. It is an indisputable fact that there is a large section of the pro-

fession who, being daily witnesses of the ineffectiveness of the warfare which has until now been waged against homœopathy, are prepared for another method of meeting the facts as they are presented by the inexorable logic of events. Whether the plan proposed by the New York State Society be the proper one, we are not prepared to say; but this much is certain, that the plan of making an educated gentleman, the peer of the most regular in all the divisions of medicine, save it may be that of therapeutics, a professional pariah, has been tried long enough to demonstrate its utter uselessness to meet the exigencies of the situation. Homœopathy has steadily grown under this mode of attack. Whether this growth has been in spite of or in virtue of such mode, we are not in a position which qualifies us for an opinion, but we are inclined to the belief that it is the latter.

"We yield to no one in our devotion to scientific medicine or to the interests of the regular profession, but we can not believe that the manner in which homœopathy has been treated is the best calculated either to convert its more intelligent practitioners or to win from it public support. Under the Canadian Medical Act homœopathy is placed on the same footing in all respects as regular medicine, and the possibilities of persecuting it after the manner which is in vogue in the United States are all removed. Homœopaths are required to conform to the same standards in all branches, save *materia medica* and practice, as are the regular physicians so called, and they are accorded an equal recognition in all matters coming under the medical act. This law has been in operation for upward of twelve years, and the consequence is the almost complete extinction of homœopathy as a dogmatic sect. The charlatans in the homœopathic ranks have made capital out of the persecution to which they have been subjected in this country, and they will always continue to.

"The medical profession can not afford to ignore public opinion, and it is suicidal for it to deliberately work counter to it. The public, uneducated as they are in the distinctions which divide the 'schools' of medicine, decide in accordance with the dictates of the innate sense of fair play, and thus doing they will always, as they always have done, take sides with the homœopath when the 'regular' affects to treat him

with characteristic supercilious contempt. That the public are right in so doing we are not prepared to admit, but that they do always side with the homœopath in such controversy is a stubborn fact to which the regular profession has persistently closed its eyes. The voice of the secular press, in so far as we have been able to ascertain it—and we have made some effort to discover it—has been unanimously denunciatory of the action of the St. Paul meeting in summarily excluding the New York delegation for the reason assigned, and homœopathy has, through this action, been advanced in the estimation of the public, whence come all medical fees, to an extent which will make itself more apparent against the next meeting of the American Medical Association."

In its July number the "Canada Lancet" expresses itself upon the same matter in the following words:

"Considerable interest was manifested with reference to the probable action of the association toward the delegates from the New York State Medical Society, in consequence of the society having adopted a code which permits consultation with homœopaths, and this matter was one of the earliest to come up for adjudication. Protests against their admission were forwarded by several medical societies in different parts of the Union. These protests were referred to the Judicial Council, which reported at an early stage against the admission of the New York State delegates. The report was adopted without any discussion, and the matter dropped. The code of the New York State Medical Society allows the utmost freedom to its members to consult with all *legally qualified* practitioners, and we believe that, notwithstanding the action of the association, the time is not far distant when other societies will do likewise. We believe that homœopathy should neither be persecuted nor recognized, but simply let alone. It owes its success largely to the martyrdom it has enjoyed at the hands of the regular profession; therefore, let us cease giving it any further excuse for being a martyr. Let it alone, and it will sooner or later drop its distinctive title and merge into the general profession. We do not see that granting permission to consult with homœopaths in diagnosis, surgery, and operative midwifery in any way countenances homœopathy, while, on the

other hand, refusing to enter a sick chamber until the homœopath is ordered out smacks very much of persecution, and the public so regard it. We have great respect for majorities, but majorities are not always right, and so we regard the action of the American Medical Association."

THE AMERICAN GYNÆCOLOGICAL SOCIETY.—The seventh annual meeting of the society will be held in Boston, on September 20, 21, and 22, 1882. The following papers have been announced for the meeting: "A New Method of Exploration, with the Pathology and Treatment of certain Lesions of the Female Urethra." Annual address by the President, Dr. T. A. Emmet. "Leucorrhœa; its Constitutional Causes and Therapeutics," by Dr. Fordyce Barker. "The Proper Use of Ergot in Obstetrics," by Dr. Joseph Taber Johnson; "The Influence of High-heeled French Shoes upon the Female Form, and upon the Relations of the Pelvic Organs," by Dr. S. C. Busey; "The Theory of the Mechanical Treatment of Flexions," by Dr. E. Van de Warker; "The Ovarian Corpuscle: its Origin and Characteristics," by Dr. T. M. Drysdale; "A Plea for the Intra-uterine Stem, with Cases," by Dr. J. R. Chadwick.

NEUROLOGICAL STAR-GAZING. — A cruel reviewer, in the July number of the "Edinburgh Medical Journal," makes the following comments on a passage in Dr. James Ross's "Treatise on Diseases of the Nervous System": "Naturally," he says, "Dr. Ross owes much to recent German and French writers on diseases of the nervous system, and of this he gives a general acknowledgment in the preface. But there are many parts where no authority is mentioned, which yet are obviously borrowed, and in one of these Ross has fallen into a most amusing mistake. 'The case of Sterne,' he says, 'who saw distinctly the satellites of Jupiter with the naked eyes, is a good example of optic hyperæsthesia' (p. 313, vol. i). Sterne—there is only one Sterne—was a very clever and amusing fellow, but we never before heard of his sharp sight, and, as he died in 1768, this is just a statement which ought to have a reference to confirm it. Unluckily for Ross, we have accidentally fallen upon this reference. Here it is: 'Ich erinnere nur an die Beobachtungen,

dass Sterne siebenter Grösse und die Jupiterstrabanten mit blossem Auge deutlich erkannt wurden' (Eulenburg, *Lehrbuch*, etc., S. 321). The fact is quite as remarkable as before, but it loses much of its interest with the loss of the personality, 'Sterne' being not, like 'David,' a man's name, but only the German for 'stars,' 'siebenter Grösse,' of the seventh magnitude. Ross must have been sorely exercised in his mind with this 'siebenter Grösse.' What on earth decided him to cast it aside? And what was our old friend Graham Steell about when he so carefully read the proofs and yet missed this most excellent joke?"

A CURIOUS MALFORMATION OF THE URETER.—In "Lyon Médical" for June 4, 1882, M. Soller reports a remarkable case of incontinence of urine that came under observation in M. Laroyenne's service at the *Clinique des Maladies des Femmes de la Faculté de Médecine de Lyon*. The patient was a girl, eighteen years old, who was found to have a supplementary meatus urinarius, situated below and to the right of the normal meatus. A small catheter could be introduced about 10 ctm., and a few drops of normal urine escaped through it, although at the time the bladder was full of urine, which the patient was able to retain. The dropping from the supplementary channel continued after the bladder was emptied with a catheter. A strong solution of fuchsin was injected into the bladder, but the urine which continued to drop from the abnormal meatus was not colored, and analysis showed it to be absolutely normal. The opening was closed temporarily with a catch-forceps, and, on removing it the next day, a considerable quantity of urine escaped, being projected in a jet to a distance of more than 15 ctm. In view of these facts, M. Laroyenne diagnosticated an abnormality of the right ureter, which, he supposed, either pursued its course direct to the false meatus, or else bifurcated before penetrating the bladder, and sent a branch to the locality mentioned.

SAVAGE ON OÖPHORECTOMY.—In a letter to the editor of the "British Medical Journal," published in its issue of June 24, 1882, Dr. Henry Savage, a member of the committee of management of the Samaritan Free Hospital,

London, says: "About oöphorectomy, the least said the better, except to denounce it as a detestable mutilation. There are evidences more than enough against the expectation of lasting benefit from that odious operation. It is to be hoped that the few recorded of the many deaths due to it may operate as an enduring sting on the consciences of those who hereafter have recourse to it." How easy it is to settle such a matter—on paper! Some years ago British surgeons did the same thing for ovariectomy, and in language quite as forcible; nevertheless, *le jeune soldat a fait son chemin*.

OIL OF WINTERGREEN.—At a recent meeting of the Glasgow Southern Medical Society, reported in the "Glasgow Medical Journal" for July, 1882, the President, Dr. N. Carmichael, read a paper on the physiological and therapeutical action of oil of wintergreen (the *gaultheria procumbens*) and oil of spiræa. He states that the oil of gaultheria consists of 90 parts of acid salicylate of methyl and 10 parts of a terebene, separable by fractional distillation. Taken internally, undiluted, the oil produces considerable heat in the fauces, œsophagus, and stomach, followed by a little nausea. It is speedily absorbed, and is excreted mainly by the kidneys, being readily detected by chemical tests in the urine, to which it imparts its characteristic odor. It is partly eliminated also by the skin and the lungs. To the stomach it acts as a stimulant, in large doses causing nausea and vomiting. It is a powerful antiseptic; 1 part to 200 of urine preserved the latter for eighteen days. Taken internally, it acts as an antiseptic upon the excretions with which it is discharged: urine voided an hour after taking 20 drops of the methyl salicylate remained perfectly free from putrefaction for twelve days, while urine passed immediately before the drug was taken became very putrid and ammoniacal in a few days. On account of this property it has proved serviceable in chronic cystitis, especially when the urine is ammoniacal; and it has acted well in bronchitis, etc., as an expectorant; in acute and chronic rheumatism; and as a diuretic in cardiac, renal, and hepatic dropsies. It combines well with digitalis, but as a diuretic it should not be relied on to the exclusion of other drugs. It may be given in solu-

tion in water (1 in 250), in solution in spirit, in pill, or by inhalation.

OIL OF SPIRÆA.—In the same paper the oil of spiræa ulmaria (queen of the meadow), which is chemically identical with salicylous acid, is credited with like properties. A watery solution (1 to 500) makes an antiseptic lotion. [It is to be noted that Dr. Carmichael's experiments were not made with the oil actually distilled from the spiræa, but with an artificial salicylous acid prepared by the oxidation of salicin; also that the doses of the oil of gaultheria and of the oil of spiræa proper to be used in the various morbid conditions mentioned are not given.]

A LUNATIC'S TESTIMONY.—In the last number of the "Archives de Neurologie" we find it recounted that an inquest was held lately on the body of an inmate of a lunatic asylum who had died of *étranglement interne*. This expression had been rendered by one of the surviving inmates *étranglé par un interne!* An official of the asylum took the poor fellow's version to be the true one—hence the inquest.

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 13, 1882, to August 12, 1882.*—PROMOTIONS. —Colonel Charles H. Crane, Assistant Surgeon-General, promoted Surgeon-General, with the rank of Brigadier-General, to date from July 3, 1882, vice Barnes, retired; Lieutenant-Colonel Charles C. Keeney, Surgeon, to be surgeon with the rank of Colonel, June 30, 1882, vice Cuyler, retired; Lieutenant-Colonel John F. Head, Surgeon, to be surgeon with the rank of Colonel, June 30, 1882, vice King, retired; Major Joseph B. Brown, Surgeon, to be surgeon with the rank of Lieutenant-Colonel, June 30, 1882, vice Simons, retired; Major David L. Magruder, Surgeon, to be surgeon with the rank of Lieutenant-Colonel, June 30, 1882, vice Keeney, promoted; Major Charles Page, Surgeon, to be surgeon with the rank of Lieutenant-Colonel, June 30, 1882, vice Head, promoted; Captain John Brooke, Assistant Surgeon, to be surgeon with the rank of Major, March 2, 1882, vice Frantz, deceased; Captain William H. Gardner, Assistant Surgeon, to be surgeon with the rank of Major, June 23,

1882, vice Notson, deceased; Captain Charles Smart, Assistant Surgeon, to be surgeon with the rank of Major, June 30, 1882, vice Brown, promoted; Captain William S. Tremaine, Assistant Surgeon, to be surgeon with the rank of Major, June 30, 1882, vice Magruder, promoted; Captain Morse K. Taylor, Assistant Surgeon, to be surgeon, with the rank of Major, June 30, 1882, vice Page, promoted. ===== GREENLEAF, C. R., Major and Surgeon, now awaiting orders. To report in person to the commanding officer, Columbus Barracks, Ohio, for duty as post surgeon at that post. S. O. 160, A. G. O., July 12, 1882. ===== HARTSUFF, ALBERT, Major and Surgeon. Having reported at these headquarters on the 3d instant, surrendering unexpired portion of his leave of absence, will proceed to Fort Union, New Mexico, and report to the commanding officer for duty. S. O. 153, Department of the Missouri, August 4, 1882. ===== BROOKE, JOHN, Captain and Assistant Surgeon. Having reported at these headquarters, is assigned to duty as post surgeon at Angel Island, California. S. O. 120, Military Division of the Pacific, and Department of California, July 7, 1882. ===== CORSON, J. K., Captain and Assistant Surgeon. Relieved from duty in Department of Arizona, to proceed to Philadelphia, Pennsylvania, and, on arrival, report by letter to the Surgeon-General. S. O. 164, A. G. O., July 17, 1882. ===== MUNN, C. A., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for two months' extension, when relieved by Acting Assistant Surgeon T. H. Pleasants. S. O. 147, Department of the Missouri, July 28, 1882. ===== GIRAUD, J. B., Captain and Assistant Surgeon. Relieved from duty at Fort Grant, Arizona Territory, and assigned to duty at Fort Lowell, Arizona Territory. S. O. 106, Department of Arizona, July 3, 1882. ===== ELBREY, F. W., Captain and Assistant Surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 168, A. G. O., July 21, 1882. ===== BYRNE, C. B., Captain and Assistant Surgeon (Fort Barrancas, Florida). Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months. S. O. 68, Department of the South, July 12, 1882. ===== SHUFELDT, R. W., Captain and Assist-

ant Surgeon. The leave of absence granted him in S. O. 92, April 21, 1882, from A. G. O., is extended one month. S. O. 178, A. G. O., August 2, 1882. ===== RAYMOND, H. I., First Lieutenant and Assistant Surgeon. To proceed at once, with necessary attendants, from Whipple Barracks, *via* Fort Verde, to the scene of recent engagements with hostile Indians near General's Spring, and bring in those wounded to Fort Verde, and remain in charge of post hospital there until further orders. S. O. 112, Department of Arizona, July 19, 1882. ===== HOPKINS, W. E., First Lieutenant and Assistant Surgeon. To proceed from Fort Adams, Rhode Island, to Camp Washington, Gaithersburg, Maryland, and report to the commanding officer for duty. S. O. 132, Department of the East, July 31, 1882. ===== BARROWS, CHARLES C., First Lieutenant and Assistant Surgeon (recently appointed). To report in person to commanding general, Department of Arizona, for assignment to duty. S. O. 164, C. S., A. G. O. ===== MUNDAY, BENJAMIN, First Lieutenant and Assistant Surgeon (recently appointed). Assigned to temporary duty at Willet's Point, New York. S. O. 164, C. S., A. G. O. ===== WILSON, GEORGE F., First Lieutenant and Assistant Surgeon (recently appointed). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S., A. G. O. ===== OWEN, WILLIAM O., Jr., First Lieutenant and Assistant Surgeon (recently appointed). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S., A. G. O. ===== EGAN, PETER R., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to temporary duty at the recruiting depot, David's Island, New York. S. O. 164, C. S., A. G. O. ===== WAKEMAN, WILLIAM J., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to temporary duty at Columbus Barracks, Ohio. S. O. 164, C. S., A. G. O. ===== EVERTS, EDWARD, First Lieutenant and Assistant Surgeon (recently appointed). To report in person to commanding general, Department of the Columbia, October 1, 1882, for assignment to duty. S. O. 164, C. S., A. G. O. ===== CARVALLO, CARLOS, Captain and Assistant Surgeon. Died at Winthrop, Massachusetts, on July 23, 1882.

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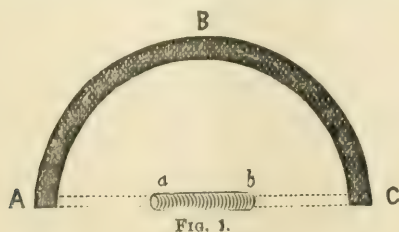
Original Communications.

NON-UNIFORMITY IN THE PRINCIPLES OF TREAT-
ING POTT'S DISEASE AS TAUGHT BY PROFESSOR
SAYRE; ELASTIC TENSION AND ARTICULAR MO-
TION AS THERAPEUTIC AGENTS.

BY M. JOSIAH ROBERTS, M. D.,

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LET ABC represent a rigid iron rod bent in the form of a semi-circle, with the ends, A C , three feet apart; and ab a solid rubber cord, one foot in length. Now, if we stretch the rubber cord and



attach one of its ends to the iron rod at A and the other at C , its return to its original length and form, ab , will be opposed by the iron rod ABC . An *elastic* force is thus developed, which, being exerted upon the ends of the curved metallic bar AC , to which

the rubber cord is attached, constantly tends to approximate them. This force is termed *elastic tension*. It is therefore evident that *elastic tension is the force which is exerted upon an object opposing the return of an elastic body to its original shape or position*.

The term elastic tension is used by me in a generic sense, and includes all specific manifestations of elastic force by whatever means developed, or in whatever direction exerted. The phrases elastic extension, elastic flexion, elastic rotation, etc., have a specific meaning, and define the direction in which the force is exerted. There are other specific words and phrases which describe the material used, or the method of producing the elastic tension.* This much by way of definition is deemed advisable in order to guard against misapprehension as to the meaning of terms to be used.

Having carefully studied the history of the development of the now widely adopted plan of treating spondylitis taught by Professor Lewis A. Sayre, and arranged the discussion it has elicited under the several headings advantages, disadvantages, improvements, etc., and, furthermore, having had a personal experience in the application of not fewer than fifteen hundred jackets, it would afford me pleasure, did circumstances permit, to discuss its merits and demerits somewhat at length.

It is my present purpose, however, only to cite some important instances of non-uniformity in the mechanical principles of this method, with the idea of making deductions therefrom, which, when considered in the light of well-known physiological laws, would seem to indicate the desirability of beginning treatment with a higher aim than heretofore, and conducting it upon more rational principles.

In calling attention to the want of uniformity in the principles of the plan of treating angular curvature promulgated by Professor Sayre, I would not wish it to be understood as wholly condemnatory, for in his teachings I find much to praise. Nor do I wish to be credited with polemic proclivities. But I entertain the opinion that he who, in this wondrous age of questioning, points out neglected facts, or critically interrogates assertions which bear evidence of having been too hastily made, helps to elucidate the branch of knowledge of which he treats and to further the cause of science.

The *aim* of this plan of treatment, as stated by its author, irrespective of the extent of the degenerative processes, is to secure *consolidation* or *anchylosis* of the diseased vertebræ as rapidly as

* *Vide* paper read by the author before the Medical Society of the County of New York, January 23, 1882, entitled, "Elastic Tension and Articular Motion as Therapeutic Agents in the Mechanical Treatment of Chronic Inflammations of Joints."

possible. To this end, as will be seen by reference to Dr. Sayre's excellent manual, "Spinal Disease and Spinal Curvature,"* he correctly argues that it is of great importance "to maintain *rest of the affected parts*." For the purpose of securing this "rest," he directs: *First*, that "the spinal column" shall be straightened (extended) "in such a manner that the weight of the body is borne by the *transverse* processes, and not by the bodies of the vertebræ." *Second*, that the improved position shall be maintained by "an accurately fitting apparatus applied to the *body* itself when extended."†

The apparatus recommended and used by Dr. Sayre is what he has termed the "plaster jacket," with which the profession has had abundant opportunity to become familiar. He claims for this an advantage "over other dressings," in that "it affords the means by which absolute rest is secured, motion of the parts diseased not being permitted even to the slightest degree, so long as the apparatus is properly adjusted."‡

Admitting the correctness of the statement that the jacket secures "absolute" vertebral immobility, which I have experimentally and clinically demonstrated not to be the case, the observation could, of course, only apply to those parts of the spine situated below the level of the axillæ. The vertebræ above that level can not be thus confined by the plaster jacket when it is applied as directed in the manual above referred to, for the dressing does not extend much higher than the armpits.

In view of the foregoing statements regarding "the principles of local treatment," in which the importance of "absolute rest" and the restriction of "motion of the parts diseased" is emphasized, it is not a little surprising that these ideas are entirely set aside in the teachings of Dr. Sayre concerning the treatment of cervical caries, or caries of those parts of the spine above the axillæ.

Without assigning any physiological or pathological reasons for a change in the *principles* of treatment, he tells us, when "the cervical or upper dorsal vertebræ, or both together, are involved," . . . "the plaster jacket alone can do but little if any good." In these cases, he says, "it then becomes necessary to treat the disease by the use of an instrument which I call the 'jurymast apparatus'" (*vide* Fig. 2).# The lower part of this apparatus is incorporated within the layers of the plaster jacket (*vide* Fig. 3).||

The upper part consists of a curved, flattened malleable iron

* Sayre on "Spinal Disease and Spinal Curvature," London, 1877, p. 8.

† *Op. cit.*, p. 9.

Op. cit., p. 20.

‡ *Op. cit.*, p. 13.

|| *Op. cit.*, p. 72.

or steel bar extending over the head. From a more or less movable cross-piece, attached by a pivot to the free extremity of this bar,

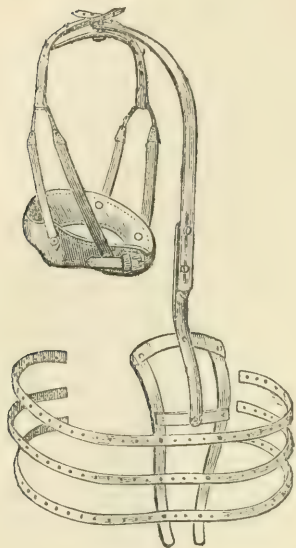


FIG. 2.



FIG. 3.

the head is suspended by means of leathern straps connected with an occipito-mental encasement (Fig. 3).

Now, it will be readily seen from an examination of this apparatus that it not only affords no *efficient* "means by which absolute rest is secured," but that no attempt is made to confine the movements of the head and neck beyond that consequent upon linear spinal extension (traction). Hence, the claim that "motion of the parts diseased" is not "permitted even to the slightest degree," which Dr. Sayre makes for the plaster jacket when used in the treatment of spinal caries in the middle, lower dorsal, or lumbar regions, could not be made for it.

Thus it will be seen that, while "absolute rest" is put forward as a fundamental principle in the treatment of Pott's disease, the author provides no means for carrying out this idea in the treatment of the malady in the cervical region. In fact, the only idea which is common to the treatment of the disease above and below the axillæ, as taught by him, is that of *extension*, or the "straightening of the spinal column in such a manner that the" superimposed weight "is borne by the *transverse* processes, and not by the bodies of the *vertebræ*." And even the extension is not of the same kind in the two instances. Below the level of the armpits

the desired position is maintained by "applying a plaster dressing completely around the body from the pelvis to the axillæ."* The plaster soon sets—becomes hard—and the position of the patient is enforced by *rigid* extension. When the disease is in the cervical region, the desired position, as has already been shown, is maintained by the suspension of the head from a *movable* cross-bar attached to the end of a curved metallic rod extending over it.

There is always more or less spring to this rod, and slight yielding on the part of the leathern straps. The *elasticity* of the jury-mast, especially at the cephalic curve, is made apparent whenever the patient elevates or depresses his chin, or attempts to draw his head between his shoulders; for, as soon as the voluntary muscular act ceases, the head and neck resume their former position, mainly by virtue of the elastic force exerted upon them by the instrument. Therefore the position of the head and neck is maintained, not by rigid, but by *elastic* extension (traction).

It will be observed, furthermore, that, while the mechanical treatment of *cervical caries* taught by Professor Sayre provides no "means by which absolute rest is secured" to the *diseased vertebrae*, it does supply, as nearly as may be, the medium of affording "absolute rest" to all the *healthy vertebrae* below the level of the axillæ by confining the body in a closely fitting plaster jacket.

There are other instances of the want of uniformity in the principles involved in this plan of treatment which it would be both interesting and instructive to consider. The main one, however, is, that *the same mechanical principles are not advocated in the treatment of vertebral caries above the level of the axillæ that are so emphatically declared to be of prime importance when considering the treatment of this disease below that level.*

Having observed that there is a difference in the principles of this method of treatment in the two regions above designated, the first question which naturally suggests itself is, Are there any physiological, pathological, or other reasons for adopting different *principles* of treatment in different parts of the spine? Without going into detail, I may state the conclusion which was reached after some deliberation, viz.: That, notwithstanding the peculiarities of the occipito-atlantal and atlo-axoidean joints as compared with other vertebral articulations, there exists no valid reason for a change in *principles* when treating different parts of the spinal column.

The first question having been answered in the negative, the next point was to ascertain the therapeutic effects of mechanics in the regions referred to, in the hope of determining which of the two

* *Op. cit.*, p. 11.

ideas—*rigid* extension and the prevention of “motion of the parts diseased,” or *elastic* extension and the permission of voluntary vertebral mobility—yielded the better clinical results. Purposing this object, I collected the evidence afforded by the published reports of those who have used the Sayre method. The testimony thus derived was critically and judicially considered in the light of knowledge obtained from a somewhat extended personal experience and the carefully taken and recorded histories of a considerable number of patients.

These studies have led me to state a paradox, but it is true that a greater proportion of the patients with *cervical caries*, under the treatment prescribed by Professor Sayre, make good recoveries than of those affected in the middle or lower dorsal regions and treated by rigid extension and fixation. In other words, when caries occurs in the vertebræ of the neck, where it is almost, if not quite, impossible (with any apparatus which the patient will tolerate) to keep up extension and prevent “motion of the parts diseased,” thus affording so-called “absolute rest,” if the head be properly suspended (elastic vertebral extension maintained) and voluntary motion permitted, the majority of patients will recover from one to several months earlier than those with spinal caries occurring below the level of the axillæ, and treated by suspension and the plaster-of-Paris jacket. In addition, the probabilities of ankylosis and deformity are materially lessened, and the chances for the restoration of the functions of the diseased vertebræ increased.

As illustrative of the foregoing conclusion, I wish to cite a case of cervical spondylitis occurring in a five-and-a-half-year-old boy. The patient was sent to me by Dr. William C. Jarvis, June 27, 1881, the mother having consulted Dr. Jarvis for supposed throat difficulty. Without detailing a full history, I may say that, according to the mother's statement, the diagnosis of cervical Pott's disease had previously been made by Drs. Stephen Smith, Charles P. R. Schoenemann, and V. P. Gibney, gentlemen who, as is well known, have had much experience with orthopædic cases.

When I saw the patient he continually supported his head with one or both hands, as shown in Fig. 4. I was informed, however, that most of the time, when left to himself, he would squat upon the floor and hold his head with both hands, as in Fig. 5. Upon looking into his mouth, the whole posterior and upper part of the pharynx was found occupied by a projecting mass, which to the touch was hard and resistant. It was thought that this was a partially dislocated vertebra, inasmuch as there was a slight corresponding depression externally. Both tonsils were ab-

normally prominent, the right more so than the left. Their appearance was as if thrown forward by a post-pharyngeal inflammatory



FIG. 4.



FIG. 5.

exudation into the submucous cellular tissue. Great pain was experienced by the patient upon the least lateral motion of the head or the slightest jar. So sensitive was the child to jolting that it was impossible for him to ride in a stage over a stone pavement, and he would even cry out with pain when riding in the street-cars. His respiration was labored, being noisy and grunting in character—sometimes spasmodic. He ate very little, and had lost a great deal of flesh.

Assisted by Dr. W. R. Lambuth, of Shanghai, China, I cautiously made traction upon the head and axillæ, by means of the ordinary suspension apparatus, until the patient declared that he no longer experienced the slightest pain or discomfort. While in this position a light plaster jacket was applied over a skin-fitting knit shirt. The regulation “jnymast” was added, and secured in position by another roller of gypsum bandage. The suspension of the head was effected by the use of *elastic webbing* instead of leathern straps.

I have applied *elastic extension* in this manner to the cervical and upper dorsal spine for a number of years, and with the most gratifying results. The extension is more efficient than when the leathern straps are used, because it is kept up by an active force. It is less irksome by virtue of the elastic side-straps, the element of stiffness being removed. *The jar incident to walking or riding is reduced to the minimum*, and the patient can open his mouth more easily in talking and eating. Flat metallic springs may be substituted for the webbing, and are more durable.

The mechanical sustentation thus afforded the patient enforced the desired posture, secured freedom from pain, and rendered it no longer necessary for him to support his head with his hands (*vide* Fig. 6).



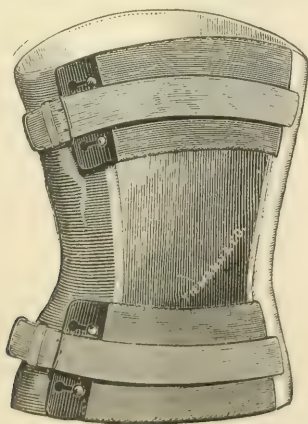
FIG. 6.

In the past I have used for the most part the rigid plaster jacket as a support for the "jurymast" when treating cervical caries. For this reason I would not have it understood that I have been blind to the inconsistency of confining the movements of the healthy vertebræ below while voluntary motion of the diseased vertebræ above was permitted. Long since, I arrived at the conclusion that elastic extension and motion of the carious bones was the best treatment yet proposed. Hence, with this end in view, in the absence of mechanical support for the cervical spine constructed upon more rational principles, I took solace in the almost universally received opinion, that ankylosis of healthy vertebræ could not occur even though confined, as in a plaster jacket, for many months. Though fear of union of healthy vertebræ was not entertained, I did not lose sight of the desirability of ultimately adopting a plan of treatment which should not only avoid unduly confining the movements of healthy vertebræ for the sake of affording motion to the diseased ones, but should have in view the shunning of the reduction in bulk and the lowering in tone of the dorsal

muscles, an inevitable result of long confinement in the undivided plaster jacket. Nor did I fail to observe the diminution in the rate of the growth of the healthy vertebræ from the time they were unwittingly made captives for the benefit of their diseased fellows.*

The degenerative changes in the inflammatory exudation resulting from carious solution of the vertebræ had already proceeded so far when the patient came under treatment that its complete absorption without the formation of abscess was impossible even under the most favorable circumstances. However, the patient continued under treatment for more than four months without complaint or apparent discomfort, save a somewhat noisy respiration consequent upon obstruction to the upper air-passages by the pharyngeal and post-tonsillar infiltration. At the expiration of this time a small fluctuating tumor about one inch across its base, situated externally and to the right of the second cervical vertebra, was observed. On November 16th, at my request, Professor J. Williston Wright attempted an aspiration of this abscess, using a needle of large caliber. The operation was only partially successful, owing to the plugging of the needle with filaments of disintegrated tissue. Subsequently, after poulticing, the abscess broke at the point of puncture, and discharged a quantity of pus, which relieved the patient greatly, and his respiration at once became more nearly normal.

* In order to make the jacket removable for the purposes of cleanliness and the manipulation of the trunkal muscles, and yet to retain its full supporting power, I have made use of a metallic clasp, secured in position by an elastic band passing over it. It



is attached to the jacket after the removal of a wide longitudinal section in front. Being curved so as to correspond to the contour of the chest and abdomen, and closed by means of strong bands of rubber webbing, the anterior part of the chest is not pressed upon, nor are the movements of respiration unduly restricted.

A modified jury mast, made for me by J. Reynders & Co. (*vide* Fig. 7), was substituted for the one recommended by Dr. Sayre

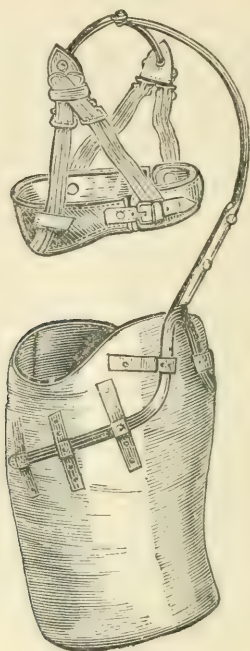


FIG. 7.

(*vide* Figs. 2 and 3). The observation which first led me to consider a change from the old one necessary was that the weight of the head, when suspended from the free extremity of the cephalic shaft, constantly tended to press the instrument, together with the upper posterior margin of the jacket, against the spine, causing abrasions of the skin. This pressure was noticed to be most pernicious when the instrument was used in cases of spondylitis involving the medio-superior dorsal junction, and accompanied by a marked boss.

The jury mast, in its modified form, differs mainly from its antecedent in that the arms, which are incorporated between the layers of the jacket, are curved forward under the axillæ. This disposition of the trunkal shafts secures for the instrument, when sustaining the weight of the head and neck, a state of stable equilibrium, the center of gravity of the whole falling within the base, and being located inferiorly to the lowest point of the shafts. Undue pressure against the spine is impossible, and the head is sustained without mechanical strain. It is unnecessary for me, in this con-

nection, to make more than a passing allusion to the mechanical advantage thus gained.

Another point gained in the modified form of the instrument is that of securing the maximum amount of strength with the minimum weight of metal. This is accomplished by making the cephalic shaft of a light strip of steel bent upon its edge, instead of flatwise, and widest at the point of greatest curvature, a feature not well shown in Fig. 7.

Though the altered head-rest, with elastic straps attached (Fig. 7), probably fulfills the more important mechanical indications for treatment, it is, nevertheless, on some accounts, very objectionable. It, like all supports that pass over the head, is unsightly in appearance, and never fails to fix the eyes of the curious on the already over-sensitive patient whenever he chances to appear in public highways. Mothers, too, usually find fault with it because of attracting so much attention. For these reasons, among others, I set about devising an instrument which, while not extending over the head, would exert continuous elastic traction upon the diseased vertebræ, and permit of voluntary articular motion. After considerable experimentation, I have to offer the head-rest shown in Fig. 8, which was made for me by G. Tiemann & Co. It permits of all the normal movements of the head being made at the pleasure of the patient, or controlled and directed by the surgeon.

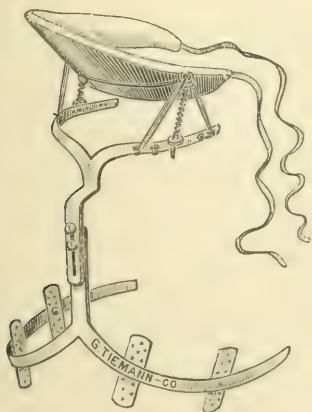


FIG. 8.



FIG. 9.

The lower part of the instrument, like that of the jury-mast, is held between the layers of the gypsum bandage, the shafts being curved forward under the arms, so as to bring its base beneath the part supported. Fig. 9, when compared with Fig. 3, illustrates the

comparative inconspicuousness of the apparatus when the patient is dressed.

Still more recent experiments have resulted in a mechanical device for the treatment of cervical caries which yields all the benefits derived from the above-described instrument, without necessitating the use of the plaster jacket to support it, and form a basis for counter-pressure. The disadvantage of restricting the movements, and consequently retarding the growth of healthy vertebræ, is thus avoided. The instrument is also exceedingly light, weighing from six to twelve ounces, according to the size of the patient.

To conclude the history of this case, I have only to add that the abscess, after discharging about two months, closed. At the expiration of eight months' treatment, the patient was dismissed cured, and has since remained in perfect health. I wish to have it borne in mind that this is not one of the cured patients that still wear an apparatus "as a means of protection" against relapses or injury, but that he has for months dispensed with all mechanical props. Without any artificial support whatever, he holds his head as erect as any child, as can be seen by reference to Fig. 10, which, and

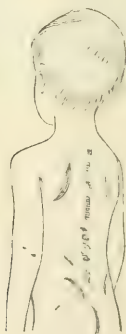


FIG. 10.

also the other figures illustrating this case, are from photographs by Mr. O. G. Mason. There is no pain on forcible concussion. *There is no ankylosis. The movements of the head and neck are as free and as extensive as before the occurrence of the disease. There is not the slightest deformity.*

In view of such a result, it is interesting to observe that at no time during the treatment has there been any attempt made to confine the movements of the head. *Continuous elastic extension of the diseased vertebræ has been maintained, and voluntary articular motion of the same permitted, night and day.*

It is the business of *art* to make use of facts, and of *science* to comprehend them. The facts above adduced might very properly have been made the basis for treating all other parts of the spinal column without further inquiry. But, as it has been my aim to bring these observations within the domains of *scientific medicine*, I have not been content with observing facts without seeking to understand them.

Why is it, then, by entirely ignoring the ideas of "absolute rest" and the prevention of "motion of the parts diseased," that we get better recoveries in a shorter time than when rigid extension and fixation are enforced?

From much careful clinical and comparative physiological study, I am convinced that the explanation lies in that great principle of nature, the correlation and conservation of forces; or, as I would term it in this connection, the *interconvertibility of physical, normal vital, and pathological forces*. Space and time will not here permit me to even attempt an explanation of the various factors entering into this complex dynamical problem.

For the purposes of the present paper it will suffice for me to express in general terms the conclusion arrived at, which is somewhat as follows:

Extension applied to the head in the manner indicated is necessarily *elastic* for reasons already given, and hence more efficacious (because active) than *rigid* extension such as is obtained, for instance, in the middle and lower dorsal regions of the spine by the plaster jacket when applied during suspension. The carious vertebræ are thus relieved from undue pressure, reflex spasm is overcome, *the jar incident to walking or riding is reduced to the minimum*, and limited voluntary articular motion is permitted without interarticular friction, and hence without pain or discomfort. It is thus not only rendered possible, but feasible, for the *normal movements of the head and neck to be very nearly approximated, notwithstanding the existence of cervical caries*.

An inevitable consequence of so circumstancing the involved vertebræ that voluntary articular motion is possible *without irritation*, interarticular or other, is to facilitate the flow of the blood through the vessels, especially through the capillaries, in which the effect of the diastole and systole are no longer felt, and to augment the efficiency of the respiratory function. *More blood and better blood, consequently more nutritive material, and that of a better quality, is furnished to the parts for the purposes of carrying on the repair of the diseased tissues*.

Thus it is that the subsidence of the inflammatory process is

hastened, the probabilities of ankylosis and deformity are lessened, and the period of repair is materially shortened.

A number of results similar to that obtained in the case here reported, occurring in my practice, have forced upon my mind this question: If speedy recovery without deformity and without ankylosis is a possible, nay, a probable, result of the early treatment of cervical spondylitis by *elastic tension and articular motion*, are not similar results to be obtained in all other parts of the spinal column by the application of the same mechanical principles?

With this great object in view, I have been experimenting for more than a year, and now have a number of patients wearing apparatus constructed for the purpose of carrying out these principles of treatment. The limits of this communication will not admit of detailing these. Suffice it to say that the results thus far have been so encouraging that the work of improvement in apparatus is being pushed forward as rapidly as the imperative duties of a busy professional life will permit.

NO. 4 WEST 28TH STREET.

ECCENTRICITY AND IDIOSYNCRASY.*

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ECCENTRICITY.—Persons whose minds deviate in some one or more notable respects from the ordinary standard, but yet whose mental processes are not directly at variance with that standard, are said to be eccentric. Eccentricity is generally inherent in the individual, or is gradually developed in him from the operation of unrecognized causes as he advances in years. If an original condition, it may be shown from a very early period of life, his plays, even, being different from those of other children of his age. Doubtless it then depends upon some peculiarity of brain structure, which, within the limits of the normal range, produces individuality of mental action.

But eccentricity is not always an original condition, for, under certain circumstances, it may be acquired. A person, for instance, meets with some circumstance in his life which tends to weaken his confidence in human nature. He accordingly shuns mankind, by shutting himself up in his own house and refusing to have any in-

* An extract from a Treatise on Insanity shortly to be published by D. Appleton & Co.

tercourse with the inhabitants of the place in which he resides. In carrying out his purpose he proceeds to the most absurd extremes. He speaks to no one he meets, returns no salutations, and his relations with the tradesmen who supply his daily wants are conducted through gratings in the door of his dwelling. He dies, and the will which he leaves behind him is found to devote his entire property for the founding of a hospital for sick and ownerless dogs, "the most faithful creatures I have ever met, and the only ones in which I have any confidence."

Such a man is not insane. There is a rational motive for his conduct—one which many of us have experienced, and which has, perhaps, prompted us to act in a similar manner, if not to the same extent.

Another is engaged in vast mercantile transactions, requiring the most thorough exercise of the best faculties of the mind. He studies the markets of the world, and buys and sells with uniform shrewdness and success. In all the relations of life he conducts himself with the utmost propriety and consideration for the rights and feelings of others. The most complete study of his character and acts fails to show the existence of the slightest defect in his mental processes. He goes to church regularly every Sunday, but has never been regarded as a particularly religious man. Nevertheless, he has one peculiarity. He is a collector of Bibles, and has several thousand, of all sizes and styles, and in many languages. If he hears of a Bible, in any part of the world, different in any respect from those he owns, he at once endeavors to obtain it, no matter how difficult the undertaking, or how much it may cost. Except in the matter of Bibles he is disposed to be somewhat penurious—although his estate is large—and has been known to refuse to have a salad for his dinner on account of the high price of good olive-oil. He makes his will, and dies, and then it is found that his whole property is left in trust to be employed in the maintenance of his library of Bibles, in purchasing others which may become known to the trustees, and in printing one copy, for his library, of the book in any language in which it does not already exist. A letter which is addressed to his trustees informs them that, when he was a boy, a Bible which he had in the breast-pocket of his coat preserved his life by stopping a bullet which another boy had accidentally discharged from a pistol, and that he then had resolved to make the honoring of the Bible the duty of his whole life.

Neither of these persons can be regarded as insane. Both were the subjects of acquired eccentricity, which, in all likelihood, would have ensued in some other form, from some other circumstance act-

ing upon brains naturally predisposed to be thus affected. The brain is the soil upon which impressions act differently, according to its character, just as, with the sower casting his seed-wheat upon different fields, some springs up into a luxuriant crop, some grows sparsely, and some, again, takes no root, but rots where it falls. Possibly, if these individuals had lived a little longer, they might have passed the border-line which separates mental soundness from mental unsoundness; but certainly, up to the period of their deaths, both would have been pronounced sane by all competent laymen and alienists with whom they might have been brought into contact; and the contest of their wills, by any heirs-at-law, would assuredly have been a fruitless undertaking.

They chose to have certain ends in view, and to provide the means for the accomplishment of those ends. There were no delusions, no emotional disturbance, no hallucinations or illusions, and the will was normally exercised to the extent necessary to secure the objects of their lives. At any time they had it in their power to alter their purposes, and in that fact we have an essential point of difference between eccentricity and insanity. We may regard their conduct as singular, because they made an unusual disposition of their property; but it was no more irrational than if the one had left his estate to the "Society for the Prevention of Cruelty to Animals," and the other had devoted his to sending missionaries to Central Africa.

Two distinct forms of eccentricity are recognizable. In the one, the individual sets himself up above the level of the rest of the world, and, marking out for himself a line of conduct, adheres to it with an astonishing degree of tenacity. For him the opinions of mankind in general are of no consequence. He is a law unto himself; what he says and does is said and done, not for the purpose of attracting attention or for obtaining notoriety, but because it is pleasing to himself. He does not mean to be singular or original, but he is, nevertheless, both. For every man is singular and original whose conduct, within the limits of reason and intelligence, differs from that of his fellow-men. He endeavors to carry out certain ideas which seem to him to have been overlooked by society to its great disadvantage. Society usually thinks differently; but, if the promulgator is endowed with sufficient force of character, it generally happens that, eventually, either wholly or in part, his views prevail. All great reformers are eccentrics of this kind. They are contending for their doctrines, not for themselves. And they are not apt to become insane, though sometimes they do.

The subjects of the other form occupy a lower level. They

affect singularity for the purpose of attracting attention to themselves, and thus obtaining the notoriety which they crave with every breath they inhale. They dress differently from other people, wearing enormous shirt-collars, or peculiar hats, or oddly cut coats of unusual colors, or indulging in some other similar whimsicality of an unimportant character, in the expectation that they will thereby attract the attention or excite the comments of those they meet.

Or they build houses upon an idea perhaps correct enough in itself, as, for instance, the securing of proper ventilation; but in carrying it out they show such defective judgment that the complete integrity of the intellect may, perhaps, be a matter of question. Thus, one gentleman of my acquaintance, believing that fireplaces were the best ventilators, put four of these openings into every room in his house. This, however, was one of the smallest of his eccentricities. He wore a ventilated hat, his clothing was pierced with holes, as were even his shoes; and no one could be in his company five minutes without having his attention directed to these provisions for securing health.

In addition to these advanced notions on the subject of ventilation, he had others equally singular in regard to the arrangement of the furniture in his dwelling and the care that was to be taken of it. Thus, there was one room called the "apostles' room." It contained a table that represented Christ, and twelve chairs, which were placed around it, and typified the twelve apostles; one chair, that stood for Judas Iscariot, was covered with black crape. The floor of this room was very highly polished, and no one was allowed to enter it without slipping his shod feet into cloth slippers that were placed at the door ready for use. He had a library, tolerably large but of little value, and every book in it which contained Judas's name was bound in black, and black lines were drawn around the name wherever it occurred. Such eccentricity as this is not far removed from insanity, and is liable at any time, from some cause a little out of the common way, to pass over the line.

Thus, a lady had since her childhood shown a singularity of conduct as regarded her table furniture, which she would have of no other material than copper. She carried this fancy to such an extent that even the knives and forks were of copper. People laughed at her, and tried to reason her out of her whim, but in vain. She was in her element as soon as attention was directed to her fancy and arguments against it were addressed to her. She liked nothing better than to be afforded a full opportunity to discuss with any one the manifold advantages which copper possessed as a material to be used in the manufacture of every article of table

ware. In no other respect was there any evidence of mental aberration. She was intelligent, by no means excitable, and in the enjoyment of excellent health. She had, moreover, a decided talent for music, and had written several passably good stories for a young ladies' magazine. An uncle had, however, died insane.

A circumstance, trifling in itself, but one, as it afterward resulted, of great importance to her, started in her a new train of thought, and excited emotions which she could not control. She read in a morning paper that a Mr. Koppermann had arrived at one of the hotels, and she announced her determination to call upon him, in order, as she said, to ascertain the origin of his name. Her friends endeavored to dissuade her, but without avail. She went to the hotel, and was told that he had just left for Chicago. Without returning to her home, she bought a railway ticket for Chicago, and actually started on the next train for that city. The telegraph, however, overtook her, and she was brought back from Rochester raving of her love for a man she had never seen, and whose name alone had been associated in her mind with her fancy for copper table furniture. She died of acute mania within a month. In this case erotic tendencies, which had never been observed in her before, seemed to have been excited by some very indirect and complicated mental process, and these in their turn developed into general derangement of the mind.

In another case, a young man, a clerk in a city bank, had for several years exhibited peculiarities in the keeping of his books. He was exceedingly exact in his accounts, but after the bank was closed always remained several hours, during which he ornamented each page of his day's work with arabesques in different-colored inks. He was very vain of this accomplishment, and was constantly in the habit of calling attention to the manner in which, as he supposed, he had beautified what would otherwise have been positively ugly. His fellow-clerks amused themselves at his expense, but his superior officers, knowing his value, never interfered with him in his amusement. Gradually, however, he conceived the idea that they were displeased with him, and at last the notion became so firmly rooted in his mind that he resigned his position, notwithstanding the protestations of the directors that his idea was erroneous. Delusions of various other kinds supervened, and he passed into a condition of chronic insanity, in which he still remains. In most of the cases occurring under this head the intellectual powers are not of a high order, though there may sometimes be a notable development of some talent, or even a great power for acquiring learning. Painters, sculptors, musicians, mathematicians, poets, and

men of letters generally, not infrequently exhibit eccentricities of dress, conduct, manner, or ideas, which not only merely add to their notoriety, but often make them either the laughing-stocks of their fellow-men or objects of fear or disgust to all who are brought into contact with them.

IDIOSYNCRASY.—By idiosyncrasy we understand a peculiarity of constitution by which an individual is affected by external agents in a manner different from mankind in general. Thus, some persons can not eat strawberries without a kind of urticaria appearing over the body; others are similarly affected by eating the striped bass; others, again, faint at the odor of certain flowers, or at the sight of blood; and some are attacked with cholera-morbus after eating shell-fish—as crabs, lobsters, clams, or mussels. Many other instances might be advanced, some of them of a very curious character. These several conditions are called idiosyncrasies.

Bégin,* who defines idiosyncrasy as the predominance of an organ, a viscus, or a system of organs, has hardly, I think, fairly grasped the subject, though his definition has influenced many French writers on the question. It is something more than this—something inherent in the organization of the individual, of which we only see the manifestation when the proper cause is set in action. We can not attempt to explain why one person should be severely mercurialized by one grain of blue mass, and another take daily ten times that quantity for a week without the least sign of the peculiar action of mercury being produced. We only know that such is the fact; and were we to search for the reason, with all the appliances which modern science could bring to our aid, we should be entirely unsuccessful. According to Bégin's idea, we should expect to see some remarkable development of the absorbent system in the one case, with slight development in the other; but, even were such the case, it would not explain the phenomena, for, when ten grains of the preparation in question are taken daily, scarcely a day elapses before mercury can be detected in the secretions, and yet hydrargyriasis is not produced; while when one grain is taken, and this condition follows, the most delicate chemical examination fails to discover mercury in any of the fluids or tissues of the body.

Bégin's definition scarcely separates idiosyncrasy from temperament, whereas, according to what would appear to be sound reasoning, based upon an enlarged idea of the physiology of the subject, a very material difference exists.

Idiosyncrasies are often hereditary and often acquired. Two or more may exist in one person. Thus, there may be an idiosyn-

* "*Physiologie pathologique*," Paris, 1828, t. i, p. 44.

crazy connected with the digestive system, another with the circulatory system, another with the nervous system, and so on.

An idiosyncrasy may be of such a character as altogether to prevent an individual following a particular occupation. Thus, a person who faints at the sight of blood can not be a surgeon; another, who is seized with nausea and vomiting when in the presence of insane persons, can not be a superintendent of a lunatic asylum—not, at least, if he ever expects to see his patients. Idiosyncrasies may, however, be overcome, especially those of a mental character.

Millingen * cites the case of a man who fell into convulsions whenever he saw a spider. A waxen one was made, which equally terrified him. When he recovered, his error was pointed out to him. The wax figure was put into his hand without causing dread, and shortly the living insect no longer disturbed him.

I knew a gentleman who could not eat soft crabs without experiencing an attack of diarrhœa. As he was exceedingly fond of them, he persevered in eating them, and finally, after a long struggle, succeeded in conquering the trouble.

Individuals with idiosyncrasies soon find out their peculiarities, and are enabled to guard against any injurious result to which they would be subjected but for the teachings of experience.

Idiosyncrasies may be temporary only—that is, due to an existing condition of the organism, which, whether natural or morbid, is of a transitory character. Such, for instance, are those due to dentition, the commencement or the cessation of the menstrual function, pregnancy, etc. These are frequently of a serious character, and require careful watching, especially as they may lead to derangement of the mind. Thus, a lady, Mrs. X, was at one time under my professional care, who, at the beginning of her first pregnancy, acquired an overpowering aversion to a half-breed Indian woman who was employed in the house as a servant. Whenever this woman came near her she was at once seized with violent trembling, which ended in a few minutes with vomiting and great mental and physical prostration, lasting several hours. Her husband would have sent the woman away, but Mrs. X insisted on her remaining, as she was a good servant, in order that she might overcome what she regarded as an unreasonable prejudice. The effort was, however, too much for her, for upon one occasion when the woman entered Mrs. X's apartment rather unexpectedly, the latter became greatly excited, and, jumping from an open window in her fright, broke her arm, and otherwise injured herself so severely that she was for several weeks confined to her bed. During this period, and for

* "Curiosities of Medical Experience," London, 1837, vol. ii, p. 246.

some time afterward, she was almost constantly subject to hallucinations, in which the Indian woman played a prominent part. Even after her recovery the mere thought of the woman would sometimes bring on a paroxysm of trembling, and it was not till after her confinement that the antipathy disappeared.

Millingen * remarks that certain antipathies, which in reality are idiosyncrasies, appear to depend upon peculiarities of the senses. Rather, however, they are due to peculiarities of the ideational and emotional centers. The organ of sense, in any one case, shows no evidence of disorder; neither does the perceptive ganglion, which simply takes cognizance of the image brought to it. It is higher up that the idiosyncrasy has its seat. In this way we are to explain the following cases collected by Millingen :

“Amatus Lusitanus relates the case of a monk who fainted when he beheld a rose, and never quitted his cell when that flower was blooming. Scaliger mentions one of his relatives who experienced a similar horror when seeing a lily. Zimmermann tells us of a lady who could not endure the feeling of silk and satin, and shuddered when touching the velvety skin of a peach. Boyle records the case of a man who felt a natural abhorrence to honey; without his knowledge some honey was introduced in a plaster applied to his foot, and the accidents that resulted compelled his attendants to withdraw it. A young man was known to faint whenever he heard the servant sweeping. Hippocrates mentions one Nicanor, who swooned whenever he heard a flute; even Shakespeare has alluded to the effects of the bagpipes. Julia, daughter of Frederick, King of Naples, could not taste meat without serious accidents. Boyle fainted when he heard the splashing of water; Scaliger turned pale at the sight of water-cresses; Erasmus experienced febrile symptoms when smelling fish; the Duke d'Epemon swooned on beholding a leveret, although a hare did not produce the same effect; Tycho Brahe fainted at the sight of a fox; Henry III of France at that of a cat; and Marshal d'Albret at a pig. The horror that whole families entertain of cheese is generally known.”

He also cites the case of a clergyman who fainted whenever a certain verse in Jeremiah was read, and of another who experienced an alarming vertigo and dizziness whenever a great height or dizzy precipice was described. In such instances the power of association of ideas is probably the most influential agent in bringing about the climax. There is an obvious relation between the warnings given by the prophet in the one case, and the well-known sensation pro-

* *Op. cit.*, p. 246.

duced by looking down from a great height in the other, and the effects which followed.

Our dislikes to certain individuals are often of the nature of idiosyncrasies, which we can not explain. Martial says :

“Non amo te, Sabidi, nec possum dicere quare ;
Hoc tantum possum dicere, non amo te” ;

or, in our English version :

“I do not like you, Doctor Fell,
The reason why I can not tell ;
But this I know, and that full well—
I do not like you, Doctor Fell.”

Some conditions often called idiosyncrasies appear to be, and doubtless are, due to disordered intellect. But they should not be confounded with those which are inherent in the individual and real in character. Thus, they are frequently merely imaginary, there being no foundation for them except in the perverted mind of the subject ; at other times they are induced by a morbid attention being directed continually to some one or more organs or functions. The protean forms under which hypochondria appears, and the still more varied manifestations of hysteria, are rather due to the reaction ensuing between mental disorder on the one part, and functional disorder on the other, than to that quasi normal peculiarity of organization recognized as idiosyncrasy.

Thus, upon one occasion I was consulted in the case of a lady who it was said had an idiosyncrasy that prevented her drinking water. Every time she took the smallest quantity of this liquid into her stomach it was at once rejected, with many evident signs of nausea and pain. The patient was strongly hysterical, and I soon made up my mind that either the case was one of simple hysterical vomiting, or that the alleged inability was assumed. The latter turned out to be the truth. I found that she drank in private all the water she wanted, and that what she drank publicly she threw up by tickling the fauces with her finger-nail when no one was looking.

The idiosyncrasies of individuals are not matters for ridicule, however absurd they may appear to be. On the contrary, they deserve, and should receive, the careful consideration of the physician, for much is to be learned from them, both in preventing and in treating diseases. In psychiatrical medicine they are especially to be inquired for. It is not safe to disregard them, as they may influence materially the character of mental derangement, and may be brought in as efficient agents in the treatment.

THE LIMITS OF MEDICAL ETHICS.

BY C. R. AGNEW, M. D.

"Where liberty is gone, life grows insipid and has lost its relish."—ADDISON.

IN the July number of the "*Ephemeris of Materia Medica*," Dr. E. R. Squibb gives a composite article with the general heading of "The Newspapers and the New Code of Ethics." It consists of a few introductory remarks by the doctor, an article also by him from the "*Evening Post*" of June 9, 1882, headed, the "Doctor and Patient," a reply by the editors of the "*Post*," and a rejoinder by Dr. Squibb. The intention of the doctor in the communications is to condemn the liberty guaranteed by the revised code of the State of New York, to show the fallacies of homœopathy, the evils of quackery, and to prove that the abrogation of the old code is wrong and therefore dangerous, that the government of the medical profession should be paternal, and that its members may not be safely left to govern themselves individually under the general laws which bind other people in business and social matters. The medical profession of the State is familiar with the fallacies of homœopathy and the evils of quackery. Simpson, Hooker, Holmes, and many others from time to time have portrayed them, and we accept the contribution to the subject from Dr. Squibb as being orthodox and conscientious, and in good keeping with his known honesty and fidelity, even though his animadversions have no special pertinency to the question involved. Conceding that the heretics are all that it is claimed they are, we can not understand why the profession of "orthodox medical" men needs a special code of ethics to prevent intercommunication with those who may be in error. However valuable, then, the argument of the doctor may be to illuminate the understanding of the readers of a secular journal like the "*Post*," it has no force against the new code of the State of New York, or any power to change the current of that reform which is sure to end in emancipating not only the profession of our State, but of the United States, from mere sumptuary, prescriptive, and trades-union laws and regulations. We agree with him cordially in much that he says about narrow and one-idea medical systems, and have no occasion now, after more than twenty-five years of public professional life as a teacher, to affirm that we are an old-school doctor and thoroughly conservative. We pass over, therefore, a good deal that the doctor has said, because it is foreign to the subject under discussion. We are not now dealing with

vulgar superstition or "unchastened and overbearing individualism," but with questions in which the personal or individual conscience of medical men is concerned. Dr. Squibb in his letter to the "Post" defends the restrictions upon consultations, as laid down in the old and abrogated code, and attempts to show the fallacy and danger of freedom of consultations or of "heterogeneous" consultations as allowed by the new code. He bases his objection to the freedom allowed in the new code, partly upon an assumption that heterogeneous consultations would be of no value, and that consultations to be of value must be homogeneous. This assumption we deny. In another place in the "Ephemeris" he illustrates his position by ridiculing the idea of a well-educated engineer meeting in consultation a believer in the "Keely motor." Now, observe, we do not advocate the enforcing of such heterogeneous consultations as the doctor objects to, but we do advocate the right of private judgment in respect to them—the right of the individual, capable by common consent of choosing between right and wrong, of deciding with whom he will meet. For, if an individual is not able morally to decide such a question, how is the moral capacity acquired to make the decision wisely by the aggregation of a number of individuals, every one of whom is supposed to be individually incapable? If the engineers of the United States were to decree solemnly in a code of ethics of their guild that no member of their body should meet a "Keely motor man," there would be some force in the doctor's illustration. But the fact is that the members of that learned profession are not hampered by such antiquated and absurd restrictions, but are individually at liberty to meet whom they may please to, and do not become liable to excommunication for meeting a "Keely motor man" or any silly person. An engineer forms his character and gets his reputation on the basis of his personal worth, and with the least possible aid from a mere body of men. He associates with whom he pleases in business and out of it, and is judged by his known character and his business and social affiliations. The advocates of the existing code of ethics in the State of New York intend to defend it against the efforts of its opponents, so that our profession may thus enjoy the same personal liberty and "sturdy individualism" as engineers, lawyers, clergymen, and members of other learned professions.

The argument against heterogeneous consultations is not only based upon a groundless assumption, but leaves out of account, in great degree, the interests of the sick, the ignorant, and the credulous, and makes the trades-union protection idea paramount as the rule of medical conduct. If a patient in the hands of an ignorant

pretender, under whatever trade-mark, calls in consultation a competent practitioner, it is a step in the right direction. Under the new code the practitioner may in the interests of humanity and in pursuit of his calling respond to his call. If a fair discussion of the case does not result in the sick person retaining the services of the competent practitioner, then it is evident that he has not suffered enough in the hands of the pretender or quack to be cured of his ignorance, and the competent practitioner, relieved of responsibility, goes on his way. If the ignorant pretender or quack should ask the regular practitioner to meet him, the nature of the emergency would determine whether he should do it or not.

It is well known that, under the old code, heterogeneous consultations of one kind or another were constantly occurring. They will always occur so long as ignorance prevails and the practice of medicine continues to be, as it always will be, an art, and only partially an accurate science. But consultations are, or should be, for the benefit of the sick, and, if they are heterogeneous, it is for the scientific and conscientious consultant to compose all differences of diagnosis and treatment in the interests of the sufferer, and as the fearless apostle of the truth. The advocate of the truth in medicine has no occasion for fear. He may, in meeting the advocate of error, be greatly discouraged and perplexed, but he need never be dismayed.

Under the freedom allowed by the new code the schemes of those who prey upon the credulous will be more frequently exposed and defeated, and every honest practitioner will be a loyal minister of the laws, and in possession of the opportunity to enforce those laws against illegal practitioners and to teach the ignorant how to select intelligently the custodians of their health. Under the new code the primary object is the good of the sick; under the old code the primary object came to be the "dignity of the profession" and an inquisitorial scrutiny of the behavior of one's professional rivals. The doctor asks, "What possible good could come from a consultation between a modern astronomer and one who believes the sun moves daily from east to west?" We reply by asking the doctor, "What possible good could come from the modern astronomers combining to make a code of ethics which would *forbid* one of their number from consulting with a person holding opinions in opposition to one or more of the dicta of astronomy?" Is it not true that modern astronomy has triumphed, even at the stake of persecution, over such proscription? Astronomy, like medicine, has had to fight its way in defense of truth, not only against the inherent difficulties of the science, but against those who assumed to be the sole judges

in ethics, and in solemn councils determined what men should believe, instead of leaving the exercise and degree of faith to the individual conscience. Is the doctor afraid that the faith of the modern astronomer is so weak in its foundations as to be endangered by his meeting an ignorant contestant? He constantly assails ignorance with the weapons of the printing-press. Why may he not contend with it in the oral encounter if he chooses to? It was Priestley, we think, who died in the belief that water was an elementary body, and ridiculed the idea of its complex nature by saying that, no doubt, vendors of ice would be going about crying, "Here goes your decaloricated protoxide of hydrogen!" Some would say that such a heretic should be turned out of every learned society, and kept isolated till he had recanted. Under the refinements of modern ethics such a man should be tolerated, even though his opinions might be at variance with those of his fellows. His fellows are not called upon to approve his errors, even though they may associate with him in other matters and as far as harmony of action is attainable. The fact is, the medical profession needs no guild-government. Its members are good subjects in the States in which they live, and are, or ought to be, alive in making its laws and maintaining them. Of course they will form, as they always have, societies of limited size and scope, in which, for scientific and social purposes, they may fix such standards for admission to membership as taste may dictate, but they must not venture to call such small circles by the broad name of State or American. Professor L. H. Atwater, in the "Princeton Review" for July, in an article on "Proposed Reforms in Collegiate Education," says: "The more fully the ends of good government are reached, in such a way that the subjects of it are conscious only of governing themselves, the better." If the principle stated is true of youths in colleges, it certainly is true of the members of a *liberal* profession, who may safely be left to govern themselves individually in subordination to the general laws of the State and of society.

Dr. Squibb says further: "But to those who see the overcrowded state of the medical profession, and the business-like way in which medical schools are chartered by States and then turn out their annual masses of graduates, in about four times the number needed, and who realize that the materials from which the profession is thus recruited are not above the average of human nature in general, the relaxation or abrogation of law seems dangerously unsafe and unwise." Now, we ask the doctor, in all candor, How many graduates in medicine the country should have doled out to it, and by whom? Are we to have the number of graduates to be allowed annually

fixed by the census, and so many allotted to such a ratio of population? We know the doctor too well to wait for his answer. He is not a pessimist. He is, in his admirable character, a standing proof of the impertinence of a special code of medical ethics, and has no more need of one to restrain him in his conduct than his neighbors need the law against profane swearing to protect them against the assaults of his tongue. It may not seem to be a modest inquiry, but this seems to be the place to make it—Who really needs a code of medical ethics? The entire profession in the United States would agree that Dr. Squibb does not need it, and we can not assume that the readers of your journal, or the “members of our set,” need it. Who, then, does need it? The doctor believes that the entire profession need it and are kept decent by it, that the public need it, but especially the newly fledged doctors who are turned out to practice in excess of the natural demands. Let us inquire for what the newly fledged and supernumerary doctors need it? To protect the public? It is too late, after a man is in the profession, to begin the work of his regeneration by the operation of laws which he has a right to enact or amend. We must strike deeper than the mere trades-union laws of professional ethics to improve the crop of doctors or sharpen the judgment of those who employ them to defend their health. But, if the evil is so great and appalling as the doctor alleges, how happens it that it sprung into existence, and attained such a magnitude, with the old code of medical ethics in existence, and the profession living under its beneficent and restraining sway? Its restrictions seem to have been powerless to protect either the public or the profession. If the evil is as portentous as he alleges, then some new remedy is obviously demanded, and there can be only two sources from which the remedy is to emanate. It must emanate from the profession itself, or be forced upon the profession from outside. The fact is, however, that the evil dreaded and described is not so great when investigated, but is largely imaginary, and, so far as it is real and remediable, is being rapidly cured by the effective operation of those forces which true culture energizes all through the varied field of thought and professional activity. Physicians are rapidly improving in quality, coming in, as they must, for their share of Christian culture and technical improvement. The writer of this has been a teacher of medical students, before and after graduation, for more than twenty-five years. He has taught in colleges, in dispensaries, and hospitals. He has been a trustee in the largest university of the country, and a teacher in one of the best medical schools. He has, in the Sanitary Commission and as Surgeon-General of the State, in many

societies and in a large practice, come in contact with a vast number of medical men of every grade, from every county in the United States, and would say, deliberately and without fear of contradiction, that by no class of students has a more rapid advance in technical and moral culture been made than by the men in our profession. In no part of the world is the standard of professional fitness advancing more rapidly than with us. In no part of the world, even now, would a wayfarer, turning in at the first sign of an M. D. for medical advice, be likely to obtain more honest professional attention or general fair dealing than in the State of New York. It is true that the medical profession is full, over full, as a mere business calling, but the public gets the benefit of the consequent competition in better service for less money, and, with this competition, the tone of the profession is improving, not deteriorating, and therefore we may infer that the forces for good are excelling in effect those for evil.

There are very few hamlets in our State, to say nothing of the larger towns and cities, where you may not find medical men honorably competing for practice who have not only had thorough hospital training in some large center of clinical teaching at home, but have also enjoyed the benefit of schools in foreign lands. Twenty-five years ago the percentage of academic alumni in our medical schools was small; it now rises to more than twenty per centum in some of them, and is increasing as rapidly as the intelligence of the public rises and demands doctors of a higher type. Our schools of medicine are not as they should be, nor as they will be when public-spirited men see what a beneficent field they afford for the application of their money. Men of wealth and public spirit are not yet awake to the fact that they have a deep interest in improving the quality of the doctors, as they must sooner or later cast themselves upon their skill, and that the medico-sanitary interests of society are related closely to its sources of wealth. There is no better field at this time for the wise expenditure of money than in developing our well-established medical schools. Most of our medical schools are still proprietary, that is to say, their teachers own shares in them. While we are far from saying that such proprietary schools of medicine are such as the highest interests of the public and the profession now make necessary, we must not forget that most of the good men we have in the profession came out of those schools; nor that the medical men who founded the schools, supported them out of their slender pecuniary resources, and taught in them, have usually been acknowledged by their brethren to be worthy leaders of professional learning and practice. Indeed, we can not understand how, in the

absence of State patronage, the supply of medical men could have been furnished by any other method unless it was by importation from other countries. We have, as a people, reached a stage of development when the public must, through the agency of properly endowed medical schools, relieve the medical profession of the burden of furnishing the money capital or plant for the production of the needed supply of physicians.

But we must draw our communication to a close. Dr. Squibb is much alarmed because Mr. Cameron introduced into the Senate of the United States a joint resolution making it a misdemeanor, punishable by a fine of \$500 and dismissal from office, for any officer of the United States Government, civil, military, or naval, to make any discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly graduated members, in the examination and appointment of candidates for medical service in any department of the Government. Dr. Squibb, in commenting upon this, says: "This extension of the idea of civil and religious liberty to the poor and downtrodden irregulars of all 'schools' is certainly going farther than the framers of the new code intended; but it is really only what might have been expected as an outcome of their liberality and tolerance of error, for if there be no principle at stake, but only mere intolerance of school, then there should be no discrimination permitted." Now, it will be observed that Dr. Squibb leaves out of account, in his animadversion upon the action of the senator, the fact that the resolution of that dignitary does not provide for the recognition of "irregulars," so called by Dr. Squibb, but of men with "legal diplomas" who have been "duly graduated." We see nothing alarming in Senator Cameron's resolution. We know nothing of his motives or animus. We suppose, however, that he is entitled to the common courtesy that a gentleman or senator deserves. The resolution seems to me not to be "chaotic," as Dr. Squibb calls it, but entirely unnecessary, even as a declaratory announcement, because the practice of our army and navy boards is, as we understand it, strictly in keeping with it in spirit if not in letter.

We have no national school of medicine, just as we have no national religion—all schools are alike entitled to be let alone by the Government that they may contend for the survival of the fittest. There are some who would like to see the Episcopal or some other church made the national church by Government fiat. There may be some who would like to see the "Old School of Medicine" established by law; we are not of that number. We want our school to triumph and fill all the medical appointments in the land, but only

on the ground of absolute merit. Clairvoyants and eclectics, etc., do not get into the army and navy medical corps simply because they can not pass the established examinations, and those standards never will be lowered so long as there are decent doctors enough left in the country to hold up the arms of legislators. We find no fault with the principle in Mr. Cameron's resolution. We are not called upon at this moment to suspect his motives. According to the philosopher Hobbes, the disposition of man is so anarchical, and the importance of restraining it so transcendent, that absolute government alone is good. "The moralists of this school," says Lecky, in his "History of European Morals," vol. i, p. 2, "though repudiating this notion, have given a great and distinguished place to legislation in their schemes of ethics."

We fear that the school of medical moralists advocated by our admirable friend and colleague falls unintentionally into the error of Hobbes, and would carry us back to forms of government against which the battle of liberty has been fought and won, and fought and won again, since the earliest days.

Civilization, need we say, has advanced, and with it our noble profession. It needs no special laws for its guidance in ethics. The ten commandments and the Sermon on the Mount and the laws of the land we live in will suffice. If the latter are insufficient, legislators may be awakened and instructed, and a broad and beneficent code of medical and sanitary laws enacted and enforced—enforced because public opinion is behind them.

A CASE OF NOMA PUDENDI, WITH REMARKS.

BY ANNA LUKENS, M. D.,

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A FEMALE child, mulatto, aged three years, born at the Nursery and Child's Hospital, previously healthy excepting an attack, when two years old, of acute articular rheumatism, complicated with endocarditis, from which she recovered with permanent mitral insufficiency. For six months previous to her last attack of illness the child's general health was remarkably good. On May 10, 1882, it was reported that she had been very restless and feverish, having had a chill the previous night. Attention was directed to the genital organs, which, upon examination, revealed a condition closely resembling aphthous vulvitis. The patches covered nearly the entire mucous surface of the labia majora and surrounding parts. The whole surface was of a grayish color, and covered with a thin gray discharge exhaling an exceedingly foetid odor. Sloughing of the parts occurred soon after, and increased rapidly, involving the perinæum and extend-

ing back beyond the sphincter ani, and for more than an inch behind the anus. The inguinal glands were not affected.

The general condition of the child at this time was very unfavorable. There was great prostration, with complete loss of appetite, thirst, restlessness, and high fever, the temperature in the rectum ranging from 101.5° F. in the morning to 104° in the evening. The pulse was feeble, small, and frequent. The parts were swollen and extremely sensitive. Micturition was painful. This condition continued for three days, when a detachment of the eschars occurred, leaving a deep furrow on each side of the anus with sharply defined, irritable edges. The right labium continued swollen and gangrenous for several days later. The constitutional symptoms began to subside soon after the separation of the slough occurred. Healthy granulations sprang up, and the healing process went on quite rapidly. In three weeks from the date of attack the entire surface was healed, but not without considerable deformity. The sphincter ani was entirely destroyed, also a portion of the perinæum. An irritable ulcer occurred within the rectum.

The local treatment consisted, first, in bathing the parts with carbolized water, afterward dusting them thickly with iodoform, with no other effect than correcting the fœtor. Balsam of Peru was next applied, but with no better result. After this a preparation consisting of equal parts of pulverized gum camphor and balsam of Peru was applied twice daily, and the parts were covered with carbolized cotton and bandaged. The latter treatment gave apparently excellent results, as the progress of the disease was arrested, and the slough began to separate soon after and was rapidly detached. The constitutional treatment consisted in giving tincture of the chloride of iron and chlorate of potassium with quinine and stimulants.

Noma was not recognized by the older writers, but was, according to Bamberger, first described by Battus, a Dutch physician, in the beginning of the seventeenth century. The disease is one of unfrequent occurrence. West observed but seven cases among thirty thousand sick children, six of which terminated fatally. Vogel remarks that he has seen but five cases, of which only one ended in recovery. He also states that from eighty to ninety per cent. of the patients with noma perish in a few days. Noma pudendi appears to be of even rarer occurrence than noma of the mouth, or cancrum oris. Holmes, in his work on "Surgical Diseases of Children," is the only author to whom I have had access that treats of it as a distinct disease, most authorities merely mentioning it as a complication of cancrum oris.

Nearly all writers on the subject agree in believing the disease to be dependent upon the cachexia following an attack of one of the eruptive fevers, among which measles stands pre-eminent, or of some other debilitating disease. But Holmes remarks that he has seen many cases in which no such cause had been in action. In the majority of instances the disease appears to be caused by unfavorable hygienic surroundings, but no satisfactory explanation

has been offered of the gangrenous inflammation selecting either the mouth or the female genital organs in preference to all other localities. The use of mercury is mentioned as a probable cause of the disease. It is said to occur most frequently between the ages of two and five years. Some authorities state that it never appears in infants, but Billard is said to have seen it in a child twelve days old, and Bierbaum mentions a case at six and a half months. Girls are more frequently attacked with noma than boys.

In the case presented here, the first point of interest is in regard to the origin of the disease. Noma rarely occurs primarily, a protracted febrile disease most frequently preceding it; and Vogel makes the statement that no instance is known of a previously perfectly healthy child becoming affected by it. In this case, although the child could not be considered perfectly healthy, in view of the cardiac lesion before mentioned, yet her general condition at the time of the attack was good. She had been in no way subjected to unfavorable hygienic surroundings, except that she had lived for a few days in a house where a case of laryngeal diphtheria occurred, and from which both children were removed and separated at the commencement of the attack of diphtheria. In consideration of the preceding fact, the question arises, whether the noma of the vulva could have become diphtheritic, and have been complicated with or have terminated in sloughing or gangrenous diphtheria.

Another unusual feature of the case was the rapid recovery from a markedly fatal disease. Again, it is rare to find deformity after recovery from noma pudendi, while in noma of the mouth deformity is, as a rule, very great. Holmes says it has never occurred to him to see a case terminating favorably in which the pudenda were seriously interfered with by the contraction caused by cicatrization after noma.

A READY AND CONVENIENT ANTISEPTIC DRESSING FOR AMPUTATION AND OTHER OPEN WOUNDS IN FIELD HOSPITALS.*

BY S. SHERWELL, M. D.,
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I HAD the honor of serving as surgeon in the Anglo-American ambulance in the war of 1870-'71, and saw much of the unhappy

* This paper, nearly as it now reads, was written in 1876, just after the battle of Plevna, and was read, in its present shape, at the Surgical Section of the International Medical Congress at London in 1881.

consequences, in our field hospitals and others; at Sedan, Orléans, etc., particularly the latter place. No one, I think, who has not been personally cognizant of the ravages of septicæmia and pyæmia in military hospitals, can form an idea of the grief, rage, and hopelessness one feels in seeing the patients under his care, a few days after important operations—amputations, or what not—have been performed, taken with the chill, fever, and colliquative sweat that mark the subjects for the grave almost as surely as if they already lay there.

I believe a large amount of these septic complications are entirely due to *direct* infection, and would offer the following method as a substitute for the ordinary dressings:

Among almost all Continental nations charcoal is largely used, and everywhere available or easily obtained. I would suggest, then, after operation, the instant envelopment of the wounds, particularly those of the limbs, and more especially, as I think, those of the lower limbs, in a sack or bag (a common small pillow-slip would serve) of charcoal finely pulverized, a fair excess of this to be used, so as to shield and envelop the tissues, the charcoal to be either directly laid on the wound, or mediately, a fold of some dressing, gauze or book-muslin, or the like, being applied next the surface; this not to be removed for days at a time, except under pressing necessity, and then preferably by a jet of water from some clean source; the same form of dressing to be reapplied thereafter, if fitting.

Although this, as I am ready to admit, would not have the extremely *neat* surgical look of good bandaging scientifically applied, I am convinced that, in hospitals of the kind to which reference is made, it would prove infinitely superior to the orthodox dressing by the infected hands and armamenta of the ignorant, dirty, or careless army nurse or aid. The charcoal dressing may, and perhaps should, be slightly dampened with some antiseptic or disinfectant fluid, according to the predilection of the surgeon, though this, in view of the properties of charcoal itself, would seem supererogatory.

I am convinced that, in this way, and by carrying out the rationale of this dressing, a *certain*, not to say *large*, amount of septic infection, and consequent suffering and death in field hospitals, might be avoided. The proceeding is so egregiously simple, that I have hesitated many years to set it on paper, but have thought on it so long and seriously that, at the risk, it may be, of ridicule, I can hold my peace no longer. The earth-dressing of Hewson has long been known, and has its advocates, as has also the cotton-batting dressing. We know that the perfect carrying out of Listerism is practically impossible in the field, and I incline to the belief, which

so many eminent men have recorded, that that treatment owes its success, in the greatest degree, to the transcendental cleanliness observed before, during, and after operation, more than to the antiseptic and to the manner of using it. At any rate, as before said, it would be hard to carry out in the impromptu services demanded often in campaigns.

It has sometimes occurred to me (in view of results obtained), while watching operations by some of the celebrated surgeons on both sides during that war, to doubt whether the surgeons who preceded Paré could not have got almost or quite as satisfactory results with a clean chop and a bucket of tar; this, not in criticism of the operator, but in view of the after-chances of infection.

Of course, all of the foregoing is not to be applied, or in only a very modified sense, to the admirable surgical work and dressing in civil hospitals, where air, instruments, bandages, assistants, etc., etc., are all clean, and the latter, especially, not overworked or careless.

It may be asked, why I did not put this theory into practice when chance favored; to which I would reply by asking those who know, how much time there is to think, busied as one is from morning till night in the incessant routine work of a crowded hospital. I could, indeed, wish that portion of my life to be again lived over; the assurance being, to my own mind, that some at least of the brave, manly fellows, German and French—whom it made me wild to lose, in spite of what I now dare to say was, on my part, devoted but useless attention—would not have had to leave their bones there if the line of treatment so hastily sketched above had been followed.

I hope that after some future Gettysburg, Worth, or Plevna, always, unhappily, possible in the future, some one who has not the time to do the regulation work will be led to give this seemingly crude innovation a trial.

A CASE OF LACERATED PERINÆUM WITH PROLAPSE OF THE RECTUM, WITH REMARKS.

By JAMES R. GOFFE, M.D.,
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How a prolapsed rectum can be safely and effectually treated is a problem upon which surgeons are by no means agreed. Amputation of the prolapsed part, involving as it does the tearing of it away from its surrounding supports, is attended with so much danger from hæmorrhage and peritonitis that the presence of cancer alone can justify the operation.

The slight risk incurred and the perfect cure secured in ligating hæmorrhoids favor the extension of that principle to ligation of a prolapsed rectum in sections, and allowing it to slough, as recommended by Erichsen. However, at present, surgery is inclined to be rather conservative in operations on the rectum, and prefers palliative and safe methods to radical and dangerous ones.

In the following case, which was a most unpromising one, Dr. T. Gaillard Thomas adopted a natural and effectual expedient, the success of which commends the operation, with hope of even better results in less aggravated cases :

The patient was a woman fifty years of age, a native of Scotland, who entered the Woman's Hospital in February, 1882, with the following history : She had been married twenty-four years, and was the mother of six children, the last born ten years ago. The first labor was tardy—continuing five days—and instrumental, lacerating the perinæum through the sphincter-ani muscle. The laceration was successfully closed one year later, and in a year following the operation the second confinement occurred, in which the perinæum was again lacerated, though not to so great an extent as at first. Each successive labor increased the extent of the laceration, till it was again made complete. This was ten years ago. Since then there has been a gradually increasing protrusion of the rectum and prolapse of the uterus, attended with constant leucorrhœa, incontinence of fæces, and frequent but difficult micturition due to dragging upon the bladder and urethra. The patient states that the protrusion has markedly increased during the past year, and that she has suffered from a daily loss of blood from the protruded mucous membrane.

In appearance, the patient was a stout, obese woman, but pale, anæmic, and nervous. On examination there was found a mass of congested mucous membrane protruding from the anus, fully three inches in length, and of the size of a man's fist; the perinæum was entirely gone; the sphincter ani was relaxed and atrophied, leaving the opening entirely patulous when the bowel was replaced, and the uterus just within the labia.

March 25th.—The bowels having been thoroughly evacuated by purgatives, and the patient placed under ether, the actual cautery was applied by Dr. Thomas, in six parallel lines longitudinal to the gut, the entire length of the prolapsed portion. The bowel was then replaced and the regular operation for laceration through the sphincter was done, an unusually extensive surface being denuded. A V-shaped surface at the posterior angle of the anus was also denuded, and two silver sutures were inserted to diminish the caliber of the still patulous anus and increase the support to the bowel. A large rectal bougie was then inserted, and held in place by cotton supported by a broad band of adhesive plaster passing across from buttock to buttock.

The patient was put to bed with a pillow under the knees, and after recovering from the ether was kept sufficiently under the influence of morphia to control the pain and keep the parts at rest. No unfavorable symptoms developed; the tube was removed, from time to time, to allow of the escape of gas and of the administration of carbolized injections; only liquid food was allowed.

April 5th.—The sutures were removed, and union had taken place throughout the entire wound.

April 21st.—To reduce the size of the anus, which was still patulous, and nearly as large as a silver half dollar, Dr. Thomas denuded another V-shaped surface at the anterior angle of the anus, actually performing a reversed perineal operation, by which the angle of the V extended back upon the anterior wall of the rectum; and closed it with silver sutures. The easily accessible mucous membrane of the rectum was previously canterized with pure carbolic acid.

April 29th.—The sutures were removed, union of the parts having been secured. The perinaeum was firm and the uterus was thrown up into better position—thus relieving the dragging on the bladder.

May 16th.—Patient discharged, with orders to go to the country for the summer and report at the hospital in the autumn.

September 4th.—Patient called to-day, and reports herself in the best of spirits and general health; has complete control of the bowel, unless the faeces are almost entirely liquid, and generally has one movement of the bowels daily. The anus is still patulous when she is in Sims's posture, and the folds of membrane can be seen within, but can not be protruded by violent straining. The uterus is still enlarged and heavy, and the patient complains of pressure from it upon the rectum. The latter can doubtless be relieved by a properly adjusted pessary.

This case is cited, not with the belief that a cure has been effected, but as an example of what great relief can sometimes be afforded by quite a simple method in a very unpromising case. The sphincter ani has lost its tonicity beyond hope of recovery; and in a stout, fleshy woman, as this patient is, the great weight and pressure bearing upon the parts will doubtless cause their gradual absorption, and the same unfortunate condition may be reproduced. But it will require at least years to accomplish it, and in the mean time she is enjoying due compensation for the trials of the operation.

IODIDE OF POTASSIUM.

By GEORGE THOMAS JACKSON, M.D.

IODIDE of potassium, the Iodkalium of the Germans, and the iodure de potassium of the French, is made by the addition of iodine in excess to an aqueous solution of potassa. It occurs in semi-opaque, white, transparent, or colorless crystals, permanent in a dry air, rather deliquescent in a moist one, of an acrid saline taste. It is soluble in two thirds its weight of water, and in six to eight parts of alcohol.

ANTAGONISTS AND INCOMPATIBLES.—It is incompatible, according to Biddle, with ammonium salts, sulphate, nitrate, phosphate, and borate of sodium, sulphates of potassium and magnesium, spirits of nitrous ether, soluble lead salts, and the mercurials generally; with chlorate of potassium, if a mineral acid is added, a poisonous

iodate of potassium is formed. Therapeutically, its action is antagonized by all those remedies which promote constructive metamorphosis, and by the vaso-motor tonics, quinia, digitalis, cold, etc. (Wood). It should be remembered that calomel and potassium iodide exhibited together form the green iodide of mercury.

SYNERGISTS.—Alkalies and other remedies which promote waste favor the action of iodine and the iodides. Even mercury, which, theoretically, is incompatible with the iodide, is, especially in syphilis, synergistic.

PHYSIOLOGICAL ACTION.—When taken into the stomach, the salt is rapidly absorbed, and enters into the circulation. In the stomach it may cause at first a feeling of coolness, this being followed by warmth, or even burning, if the dose has been considerable. By many it is claimed that when the potassium salt enters into the blood it is changed into a sodium salt; this theory, according to Ringer, has not yet been substantiated. Professor Binz ("Am. Jour. of the Med. Sci.," vol. lxx, p. 234) holds that, when the salt is taken into a healthy stomach, part is changed, by the action of the hydrochloric acid in that viscus, into hydriodic acid; another part is acted on by the chloride of sodium and changed into the iodide of sodium; and, if enough has been taken, the residue remains unchanged. All three combinations pass quickly into the circulation, when the hydriodic acid meets with soda and forms iodide of sodium; the iodide of sodium is acted on by carbonic and other acids, and iodine is set free. It has also been asserted that iodide of potassium is decomposed by the ozone, and depends for its action upon liberated iodine (Wood's "Therapeutics," 1876, p. 379). This theory also needs substantiation. By some of the leading authorities iodine and iodide of potassium are said to have the same action in the system, and many hold that the iodide depends for its action upon the iodine contained in it. It is true that both iodine and the iodide, when taken in sufficient doses, cause gastro-intestinal disturbance, and, when given continuously, produce iodism; but their therapeutical uses are in many points different. Iodine acts upon the chronic enlargements of scrofulosis more effectively than the iodide, while the iodide is *par excellence* the remedy for the tertiary enlargements of syphilis. In rheumatic affections the iodide is employed, but here, no doubt, the iodide owes its efficacy, in good measure, to the potassium. The diuretic action of the iodide may also be ascribed to its potassium, though Bouchard affirms that iodine increases the elimination of urea.

The iodide of potassium exerts an alterative effect upon the tissues. In the physiological state the iodides increase waste and

the elimination of the products of waste, and, if administered for a length of time, they cause emaciation and a general depression of the vital functions. Wood states that he has given the iodide in enormous doses, and seen nervous symptoms develop in only one case, where two hundred and seventy grains a day were exhibited, and the patient became intensely stupid and sleepy. An apparent contradiction to the depressing and emaciating effect of the drug is found in its action in syphilis, where, under its administration, the patients are seen to gain in health and flesh. This action in syphilis is accounted for by the so-called specific action of the salt, the virus being eliminated by it, and the system at once reacting. Dr. C. Binz (*"Grundzüge der Arzneimittellehre,"* Berlin, 1879) gives as a probable theory of the action of the iodide upon syphilitic and other abnormal deposits, the following: If iodide of potassium comes in contact, outside of the body, with protoplasm, water, and carbonic acid, it is changed by the oxidizing properties of the protoplasm into bicarbonate of potassium and free iodine, this reaction being necessarily accompanied by some change in the protoplasm, yet undetermined. In the diseased body, if a pathological cell organization, water and carbonic acid, or some stronger acid, are together present (and, where abnormal cells are found, the other elements will not be difficult to find); then the same reaction must take place in the presence of the potash salt, the elements of the protoplasm being broken up, the bicarbonate of potassium being formed, and the iodine set free, which latter unites with the sodium of the blood and appears in the secretions as the iodide of sodium.

The salt is almost as rapidly eliminated as it is absorbed, so that, within fifteen minutes after taking it, it may be found in the saliva and the urine. The chief eliminator of the salt is the kidney, but the broncho-pulmonary, faucial, and salivary glands take part in this action. Hence we find, during a course of the iodide, that a stimulating effect is often exerted upon the mucous membrane of the lungs, fauces, kidneys, etc., a greater quantity of mucus being thrown from the lungs, symptoms of acute coryza not unfrequently showing themselves, and the taste of the iodide with an increased flow of saliva being noticed in the mouth.

IODISM.—A characteristic effect of the iodide, when given for a continued period, is the production of what has been called iodism; this it owes to its iodine. The quantity necessary to produce iodism varies with the susceptibility of the individual. Ringer states that in some peculiarly susceptible individuals one grain of the iodide, or even a part of a grain, has induced it. Most patients, however, bear the administration of the iodide without experiencing any un-

pleasant effects; and, usually, even if iodism is induced, the system soon accommodates itself to the drug, a state of tolerance being established, though no change may have been made in the dose. In some patients in whom it is desirable to induce iodism, enormous doses have to be administered before the required effect is produced.

The symptoms of iodism are general malaise, frontal headache, coryza, lachrymation, sometimes inflammatory swelling of the eyelids, bitter saline taste in the mouth, sore throat, hoarseness, and dysphagia. An eruption of acne, especially on the face, shoulders, and thighs, is a common result of the continuous use of the iodide, and it may be present independently of any other symptom of iodism. Duhring says that "iodide of potassium may give rise to erythematous, papular, vesicular, pustular, bullous, and purpuric lesions. The erythematous efflorescence, not very uncommon, occurs usually upon the fore-arms in discrete or confluent patches, and also upon the face and neck. If the administration of the drug is persisted in, this may go on to the papular form, which is rarer. The vesicular or eczema-form variety occurs in patients who have long continued the use of the drug; by some it is said to be most common on the scalp and scrotum; others describe its occurrence on the chest or limbs, and as accompanied by severe itching and desquamation." One case is reported (Bumstead and Taylor, "Venereal Diseases," New York, 1879) where only moderate doses caused an eruption like eczema rubrum over the whole body, accompanied by fever, some dyspnoea, and copious exudation. The pustular eruption bears a close resemblance to that caused by bromide of potassium, and is acneiform in appearance. This is the acne eruption before referred to. Sometimes the pustules are followed by indurations which may persist. There is also a rare form of vesiculo-pustular eruption described by Duhring ("Diseases of the Skin," 1881, p. 329) which resembled an irritated patch of ringworm. The bullous eruption occurs most frequently about the head, neck, and upper extremities, less frequently upon the lower limbs, rarely upon the trunk. The eruption begins as pin-point-sized vesicles, or as shot-like papules, at the apices of which vesiculation appears, the vesicles being of a pale yellowish-white color. If the iodide be given in large doses or continued, the blebs become dark red or purplish, the serum, at first clear, becoming puriform and sanguinolent. Upon the discontinuance of the iodide, the lesions usually disappear within a few days or a week. Purpura is rarely produced by the iodide. It commonly appears soon after the beginning of a course of the medicine, and is most apt to occur upon the legs, less frequently upon the neck, face, and other parts of the body; taking in some cases the miliary

form, sometimes occurring in large patches, and it may even take on the form of purpura hæmorrhagica. Hydroa, says Hutchinson, is most frequently caused by the iodide. It has also been asserted that atrophy of the testes and mammæ takes place under the use of the iodide, but many prominent writers, as Bartholow, Van Buren and Keyes, and others, deny this. That it has an antaphrodisiac effect, and, in long-continued doses, is capable of causing loss of sexual power, is, according to Bartholow, quite certain.

Some cases of iodism are characterized by nervous troubles—neuralgia, ringing in the ears, convulsions, disturbances of vision, and paralysis. Rilliet (Trousseau's report on memoir, "Bull. de l'Acad. Roy.," xxv) says the iodic cachexia is most easily induced in goitrous persons, and is characterized by rapid emaciation, commencing mostly in the face, severe nervous palpitations of the heart, and excessive appetite. If the drug is continued, hysteria or hypochondriasis, with insomnia, manifests itself.

TREATMENT OF IODISM.—The unpleasant effects of the iodide appear earlier and continue longer in those in whom the processes of elimination are deficient or slow. If large draughts of water are taken with the iodide, in many cases iodism may be prevented, the water aiding in elimination. Bumstead states that if Fowler's solution is administered with the iodide, the eruption of acne may be prevented. Some claim that, if a full dose of carbonate or spirits of ammonia be administered with the iodide, the unpleasant effects of iodism may be obviated; but Ringer states that he has many times tried this, with no decided effects. If, on continuing the drug, the state of tolerance is not established, and if, after exhibiting it highly diluted, or with ammonia, the bad symptoms still continue, by stopping the drug for a few days they will all disappear without any other treatment.

ADMINISTRATION.—The dose of iodide of potassium is usually, to begin with, five to fifteen grains. Its limit is practically as much as will be tolerated by the system, or enough to produce the desired effect. It may be given pure or in solution, preferably the latter, and the higher the dilution the better. Seguin ("Arch. of Med.," vol. vi, 1881, p. 34) gives the following directions to prevent any gastric disturbance arising from the use of the salt: 1. Use a simple aqueous solution. 2. Give it upon an empty stomach, fifteen or thirty minutes before the ingestion of food. 3. Give it freely diluted with an alkaline solution. He uses a solution of equal parts of the iodide and water, by weight, and finds that a loss of one fifth is made by mixing the salt and water, so that in one hundred drops of the solution there are only about eighty grains

of the iodide. As an alkaline diluent, he advises Vichy water, one half or one glassful being taken with each dose of the salt. If neither the Vichy nor the Vichy effervescent salt can be procured, then a pinch of bicarbonate of sodium to a glassful of water will answer.

THERAPEUTICS.—As the object of this paper is principally to discuss the use of iodide of potassium in syphilis, the writer will merely mention that the salt is useful in the following maladies, viz. : bronchocele, scrofula, chronic rheumatism, gout ; as a diuretic and alterative in Bright's disease (fibroid degeneration), in spasmodic asthma, acute coryza, acute and chronic bronchitis, hay asthma, chronic pleurisy, chronic pericarditis, chronic splenitis, chronic hydrocephalus, basilar meningitis, aneurism ; and as an eliminative in mercurial and saturnine poisoning. Locally, it forms an excellent application in aphthæ, mercurial stomatitis, pharyngitis, and tonsillitis.

But it is the part the iodide plays in the treatment of syphilis which makes its study of special interest to the syphilographer. It has been used during the presence of the initial lesion, during the prodromal fever, and during the whole secondary or tertiary stage of the disease. M. F. Diday (*"Thérap. des Mal. Vén. et des Mal. Cutan.,"* Paris, 1876, p. 269) gives the salt during the presence of the chancre, before the stage of eruption (secondary), "not to drive out the poison of the virus, but to brace the constitution against it." To this end he gives every morning and evening one tablespoonful of a mixture containing : distilled water, gr. 500 ; iodide of potassium, gr. 12 ; citrate of iron, gr. 2, giving it freely diluted in water. He uses the same mixture during the prodromal fever. He claims that the good results from this method of treatment are due to the action of the iodide upon the red blood globules, saying : "M. Grassi has determined by his experiments that during the chancre the proportion of the red blood globules is diminished by about one quarter ; that the iodide of potassium administered during this time re-established their normal proportion in fifteen or twenty days ; and that, further, the iodide of mercury is far from producing the same good effects."

Most authorities, however, state that the iodide is not of much use in the first stage of syphilis, nor in the early part of the second stage, but that it is most useful in the so-called tertiary lesions. Van Buren and Keyes give, as a rule for the time of its administration, the following : "As soon as the cutaneous lesions show a marked tendency to aggregate in patches, and especially to remain long chronic as scaly or tubercular thickened patches, or, indeed,

without eruption after the first year of syphilis, the iodide should be given in the mixed treatment" (Van Buren and Keyes, "Genito-urinary Diseases, with Syphilis," New York, 1877, p. 565). The indication for giving the drug is rather the character of the syphilitic lesion, and the condition of the patient in regard to his having taken mercury, than the time which the disease has lasted. All authorities concur in stating that it gives its most brilliant results in the ulcerating and the gummy forms of syphilis, and in the deep lesions of bone, brain, and viscera. It is especially useful when the syphilitic or mercurial cachexia is present, or when the patient has taken mercury for some time without effect. Niemeyer says that "the iodide is indicated and gives most relief in all cases where the spontaneous and speedy extinction of the malady is not to be calculated on, and in which the employment of mercury is contraindicated." Bartholow ("Materia Medica and Therapeutics," New York, 1877, p. 182) says: The iodide of potassium is useful and curative in syphiloma of the nervous system, in mental disorders, epileptiform seizures, paralytic states, etc., dependent on gummata, nodes, etc., in neuralgia of the fifth, nocturnal pain in the head, syphilitic paraplegia, the various neuralgiæ of syphilis, ulcerations of the nares, palate, tonsils, and larynx, syphilitic deposits in the lungs simulating phthisis, syphilitic disease of the spleen, liver, kidneys, and other viscera, syphilitic rheumatism, and the late skin eruptions of syphilis. Rosenthal ("Nervenkrankheiten," Wien, 1875, p. 234) prefers mercury to the iodide in syphilitic disease of the brain.

The iodide, when administered for these late syphilitic lesions, should be pushed rapidly till the full effects of the drug are manifested, or till iodism is induced. Unfortunately, while the salt undoubtedly relieves the urgent symptoms, it does not possess those truly curative or specific qualities of mercury; so that, after relief is obtained by its use, mercury must be again resorted to for a permanent cure, the two drugs being continued in combination.

When the iodide is given after a course of mercury, sometimes salivation is induced, it having the property of rendering mercury, or any of its compounds retained within the tissues of the body, soluble, and of throwing them back into the circulation, to be eliminated by the kidneys. It has been affirmed that any good which may result from the administration of the iodide is due to its solvent power upon the mercury held in combination with the albuminoids of the body.

The contraindications to the use of the iodide are acute or chronic inflammation of the digestive organs, plethora, and a pre-

disposition to hæmorrhage (Bumstead and Taylor). If the patient can not take it by the mouth, sometimes its use by inunction and *per rectum* will give good results.

It is quite customary and really useful to administer the iodide with mercury, in the so-called "mixed treatment," notably in the later stages of syphilis. There have been combinations of nearly all the preparations of mercury with the iodide, but probably the most used are the bichloride and the biniodide. The solution of the bichloride with the iodide is chemically unsound, the biniodide of mercury being formed with iodide of potassium in excess. It is, nevertheless, useful. As a vehicle, perhaps, the compound syrup of sarsaparilla is as good as any, the English authors speaking highly of it for its own sake, and it is certainly a pleasant medium. Lee ("Lectures on Syphilis," London, 1875) thinks that if the iodide of potassium is given by the mouth, and mercury by inunction, they unite in the system and produce about the same effect as if iodide of mercury were given internally. This is a good way to treat chronic cases where the stomach must be spared as much as possible.

Editorials.

DR. BUCKNILL ON THE GITEAU CASE.

DR. JOHN CHARLES BUCKNILL, one of the editors of "Brain: a Journal of Neurology," contributes to the July number of that journal an article entitled "The Plea of Insanity in the Case of Charles Julius Guiteau," opening with this remarkable paragraph:

"Before these pages appear, the fate of this notorious assassin will have become irrevocable, and this reflection enables me with the greater freedom to attempt to extricate an opinion upon his mental state from the torrent of argument which has not ceased to accompany and to follow his trial. Unavoidable and unnecessary interference with the course of justice in any country by the people of other countries is to be deprecated, and recent events teach us that the citizens of the United States stand in especial need of example as to this international obligation from ourselves. With regard to political crimes, this rule of national conduct is of still more importance than with regard to common and vulgar murders like that by Lamson, for citizens of the United States so frequently dis-

play self-consciousness with regard to those political institutions upon which they delight to think that all the world is gazing with envious criticism, that they can scarcely be expected to bring themselves into the frame of mind of wishing to do simply that which is right and just without admixture of feeling as to what the world will think of it."

Dr. Bucknill seems to be of the impression—a very common one—that the best way to promote the just termination of a judicial inquiry is to allow the latter to drift on in its course, however erroneous it may seem to be, reserving until too late to be of effect any comment that might have set it on the right track; hence, with rare self-restraint, he has until now refrained from shedding the light of his opinion upon the Guiteau case, being persuaded, it would seem, that a word from him would throw the court off its balance. Holding this modest estimate of himself, he must be accorded the great credit of having felt himself in a position to play the dictator, and yet of having kept himself from doing so—all in the interest of justice, with the course of which, he implies, any other line of conduct on his part would have been "unavoidable and unnecessary interference." Waiving the chief issue, we hasten to record our sense of obligation to Dr. Bucknill for teaching "the citizens of the United States" that a thing may be unavoidable and at the same time unnecessary—a conjunction of attributes that is to us a revelation.

The author labors, too, under another impression—also very common abroad—that Americans delight to think that all the world is gazing upon their institutions with "envious criticism," whatever that may be; and that they are in too great awe of Mrs. Grundy ever to enter upon a question in "the frame of mind of wishing to do simply that which is right and just." This trait in our character has been exemplified over and over again. It is notorious that we showed it by our course in the late War of the Rebellion, as British holders of Confederate bonds will cheerfully testify; and our tariff is a standing illustration of it. It is because of this plasticity on our part that, "with regard to political crimes, this rule of national conduct is of still more importance than with regard to common and vulgar murders"—truly, a deduction most adroitly disguised as a *non sequitur*! "This rule of national conduct," be it remembered, is the avoidance of "unavoidable and unnecessary interference," etc.

So much for the frame of mind in which Dr. Bucknill approaches his task. Passing to the consideration of what he has to say on the merits of the case, we scarcely need remind our readers

that, while the trial was in progress, we upheld the opinion that Guiteau was no madman, but nothing more nor less than a despicable assassin who richly deserved his doom. At the same time we took occasion to comment upon the shameful treatment suffered by one at least of the alienists whose testimony was more or less at variance with our own conviction ; and we now feel equally called upon to repudiate Dr. Bucknill's lame advocacy of our own views.

In the first place, he ventures, without the slightest warrant for so doing, to represent Dr. Hammond and Dr. Sayre as endeavoring to establish the insanity of Guiteau for political reasons ; whereas the fact is that both these gentlemen stated that, Guiteau being insane, it would be better to admit this than to pervert a scientific truth in obedience to public clamor. Dr. Sayre's statement is mutilated, either by Dr. Bucknill or by his informers—they may divide the responsibility between them—by cutting out a single sentence of its context, a procedure which ranks at no higher a level than any other forensic trick. We may apply like words to the effort, altogether unworthy a man of Dr. Bucknill's scientific position, to show a conflict between Dr. Hammond's theory of Guiteau's condition and that advanced by the assassin himself—as if the views of a lunatic on trial for his life could have any bearing on a calm psychological opinion.

But it is as we proceed further in the perusal of Dr. Bucknill's essay that we become convinced, beyond any reasonable possibility of error, that it is in the highest degree unscientific ; and our authority for considering it unscientific is no less a one than Dr. Bucknill himself. We prefer to adopt his deliberate views as laid down in the "Manual of Psychological Medicine" rather than those which he now sees fit to present. We have, nevertheless, ground for surprise that there should be so vast a difference between the opinion he gives in his book and those which he enunciates in "Brain." In the work to which we have referred, Dr. Bucknill describes numerous cases of insanity without delusion, uses the term "reasoning mania," admits that lunatics may know right from wrong and know the nature and consequences of the acts they commit, and distinctly intimates that such lunatics are irresponsible ; but in the present article he asserts that they are responsible, and admiringly indorses the ruling of the court—a ruling which, the "Lancet" says, would, if adopted, put us back a hundred years. Whether we adopt this conclusion or not, it is difficult to see how Dr. Bucknill differs from Dr. Hammond when the latter declares that some lunatics ought to suffer capital punishment when they commit murder.

But when we come to the consideration of his diatribe against Dr. Hammond for his use of the term "reasoning mania," it is impossible for us to believe that he has familiarized himself with the literature of the subject. He seems to think that the designation is applied only in the narrow sense in which Pinel used it, although several French writers have employed it in a much wider sense than that distinguished alienist. He himself, in his work, refers to its use in a wider sense than for the present occasion he is willing to admit. Let us make a few citations from the "Manual of Psychological Medicine," which, although the joint production of Dr. Tuke and himself, may, nevertheless, be considered as not containing anything to which he does not (or did not) give his approval. It must be presumed that the terms "reasoning mania," "reasoning monomania," and "moral insanity proper," are used by the authors as synonymous. We may begin by quoting the following description, by Dr. Crichton Browne, of "moral insanity," which is adopted by Drs. Bucknill and Tuke "as the most lucid description of moral insanity which we have met with":

"Moral insanity is of frequent occurrence in early life. The intellectual faculties of the person affected by it remain entire and unimpaired. He is perfectly capable of perceiving and knowing and judging. He cherishes no delusion. He can not, in the ordinary and *legal* sense of the word, be pronounced insane. And yet he is, to all intents and purposes, of unsound mind, and as much requiring guidance, restraint, and treatment as the furious maniac. He suffers from entire perversion of the moral principle, from the want of every good and honest sentiment. He is actuated by impulse, or by the most selfish, depraved, and cruel motives; he presents, in short, a perfect picture of a desperado and a ruffian. The existence of moral insanity, like everything else, has been called in question, and at the present day there are not wanting those who will recklessly commit the moral monomaniac to the scaffold or the penitentiary, little thinking that in so doing they punish disease and not crime."

Now, we must remember that these doctrines are indorsed by Dr. Bucknill as presenting the most lucid description of moral insanity he has ever seen. How the description differs from that given by Dr. Hammond of "reasoning mania," it would require a greater casuist than Dr. Bucknill to determine, and how he can escape the charge of inconsistency is a still more difficult matter to settle. A change of opinion is one thing, but Dr. Bucknill does not tell us that he has changed his views. He wishes us to reconcile the views he holds in "Brain" with those he holds in the "Manual of Psycho-

logical Medicine," and he has imposed a task which it is impossible for us to accomplish. Riding at the same time two horses going in opposite directions is a comparatively easy performance.

Just before citing Dr. Crichton Browne's "lucid description," Drs. Bucknill and Tuke quote the following passage from Dr. Lockhart Robertson: "We find that, either concomitant with intellectual disease, or even singly (the moral insanity of systematic writers), the moral powers of the mind may be perverted or entirely obliterated, exhibiting itself in entire moral perversion, in an inability to control conduct, and in total suspension of the natural affections." And then several cases in illustration of these views are given, and we finish the remarks and quotations of the authors with the conviction that their belief in the existence of moral insanity, or reasoning mania, is supreme.

It is remarkable that, having gone so far in self-contradiction, Dr. Bucknill did not proceed to assert that insanity in collateral relations does not prove the existence of an hereditary predisposition. This, however, was apparently too much even for Dr. Bucknill; he felt that "he must draw the line somewhere," and he does it, as most alienists will agree, on the wrong side. But he makes some amends for the omission by shirking the entire issue involved in the question of Guiteau's ancestry and family history, and unfairly endeavors to confound the claim with the one advanced in the Lamson case.

As a whole, the article of Dr. Bucknill consists not of a review and statement of facts and of arguments based thereon, but of invective. We should not have devoted so much space to its consideration were it not for the fact that Dr. Bucknill has furnished us with an excellent opportunity for showing that, backward in science as American alienists have been asserted to be, they are not so far behind as one or two of their prominent British colleagues. Dr. Bucknill, it is true, declares that authorities on the nervous system testified to Guiteau's sanity, but who they were he neglects to tell us, and thus deprives us of the opportunity of testing the value of his assertions. But here we can raise a positive issue, for, among those who testified on the witness-stand, or in other ways expressed, their belief in the insanity of the assassin, we have: 1. The President of the Association of American Superintendents, Dr. Walker. 2. The Superintendent of the only Government Asylum, Dr. Godding. 3. The well-known neurologists, Dr. Hammond, Dr. Spitzka, Dr. McBride, Dr. Morton, Dr. L. C. Gray, Dr. Kiernan, and Dr. Hazard. 4. The most respected of the asylum officers, Dr. Fisher, Dr. Goldsmith, Dr. Nichols, Dr. Hughes, Dr. Conrad, Dr. Folsom, Dr. Channing, Dr. Parsons, Dr. McFarland, and Dr. Kellogg. And, 5. Many

of the leading physicians outside of the specialty, such as Dr. Bowditch, Dr. Sayre, and others. It is a singular fact that Dr. Bucknill devotes much time to the allegations made on the subject by various newspapers, but has not a syllable to say relative to the only expert witness who testified that Guiteau was insane. Probably Dr. Bucknill did not deem it safe to raise an issue with Dr. Spitzka, against whose testimony no other cross-examination was brought to bear than one based on religious and anti-scientific prejudices. How unfair for Dr. Bucknill to write in this *ex parte* manner, and he a gentleman who, as we understand, has always prided himself on his disingenuousness in scientific controversy! What, too, can we say sufficiently expressive of the feeling which all must have who are acquainted with the fact, when we call to mind that in his paper he does not even allude to the gross contradiction involved in the circumstance that five of the thirteen "government experts" testified that Guiteau was shamming, and the other eight swore with equal positiveness that he was not? If this is judicial fairness, we prefer some other quality in those who venture to discuss medico-legal questions.

But, before this journal can reach Dr. Bucknill, he will have received the account of the microscopical examination of the assassin's brain, and the report of the eminent gentlemen who made it, to the effect that it exhibited evidence of the existence of the first stage of general paralysis of the insane. Thus he will have one more difficulty to overcome.

Reviews and Literary Notes.

Epilepsy and other Chronic Convulsive Diseases; their Causes, Symptoms, and Treatment. By W. R. GOWERS, M. D., F. R. C. P., Assistant Professor of Clinical Medicine in University College, etc. London: J. & A. Churchill, 1881. Pp. xiv-309.

THIS work embodies some of the best clinical writing with which we are acquainted. The author never loses sight of the particular point under consideration for the time being, never obscures it with side issues, and never strains his facts in furtherance of preconceived notions. Of how few books of the sort can this be said! Were it only for the information to be had from it in regard to the one disease, epilepsy, it would be invaluable to every practitioner of medicine; but, when in addition we find it to be a book that, from the masterly method of its make-up, no one can read

without, unconsciously it may be, taking a lesson in the broad field of clinical observation and reasoning, we feel doubly called upon to commend it to all who would add, not only to their stock of knowledge, but also to their capacity for clinical investigation. Since the publication of Landouzy's work on hysteria, no neurological monograph has appeared, so far as we can call to mind, that seems to us to present such wholesome reading as this treatise on epilepsy. We can not point to any noteworthy imperfection in its pages, and shall simply allude to a few points that have engaged our attention, regretting that the space at our command does not allow of an extended analysis.

Dr. Gowers continues the use of the term "co-ordinated convulsion" to express the severer of the convulsive attacks usually called hysterical or hysteroid fits, epileptic hysteria, hysteria major, hysterical epilepsy, or hystero-epilepsy; and certainly it is one that sufficiently characterizes the seizures, while it has no air of solving the vexed question of their relation to hysteria and to idiopathic epilepsy. The differential diagnosis of this affection and true epilepsy is given most carefully and satisfactorily. The author has not been able to verify Charcot's statement that in the initial stage of these attacks the tongue may be bitten, nor has he found compression of the ovarian region so potent in bringing on the paroxysms, or in cutting them short, as experience at the Salpêtrière would point to.

While expressing the opinion that it is not desirable to add to the number of diseases and symptoms, already too great, called after the names of observers—a system of nomenclature, he adds, alike perplexing to students, confusing to workers, and unscientific in principle—Dr. Gowers yet contrives to pay a graceful tribute to Hughlings Jackson by proposing that the epithet "Jacksonian" should be applied to the mode of investigation by which Jackson may be said to have inaugurated a new era in the study of epilepsy, rather than to the peculiar form of onset described by that observer, and widely termed "Jacksonian epilepsy." In connection with the matter of modes of onset, it may be noted that the author thinks that the evidence that Dr. Hammond's "thalamic epilepsy" depends on a morbid process in the optic thalamus is at present too slender to justify the name.

As to the general pathology of epilepsy, Dr. Gowers allows the vaso-motor theory to go on in its progress toward desuetude, ranking vascular disturbances only as among the exciting causes of individual seizures, and attributing the underlying cause to a lack of stable resisting power on the part of the cells in which the explosive action takes its origin—in other words, if we interpret him aright, enfeebled inhibition. His discussion of these points is particularly admirable. Many of the histological changes that have been described he is inclined to regard as secondary rather than fundamental, and he doubts if any great significance should be ascribed to the induration of the cornu Ammonis so dwelt upon by Meynert. It is more to the results of experiment and to clinical facts that we must look for an explanation of the pathology, he avers, than to pathological anatomy.

While the cerebral cortex may always be the seat of the irritation that leads to the outbursts, it is doubtful, he thinks, if all the facts quite warrant the conclusion that epilepsy is a disease of the cortex; the motor centers involved may be more deeply seated, but, as Burdon Sanderson's researches seem to show, be affected by surface irritation. But we must refrain from following the author further in this enticing direction.

About fifty pages are devoted to the matter of treatment, the salient points being, that the bromides are entitled to more confidence than all other remedies put together, both to control the paroxysms and to cure the disease permanently; that their use can be so managed in the great majority of cases as to avoid an amount of unfavorable action sufficient to outweigh the benefit obtained; that the prevention of the paroxysms is to be accomplished by all practicable means, as tending more than all else, in the long run, to bring about such changes in the nutrition of the cells at fault as shall constitute a real cure of the disease; and that, in certain sorts of cases, drugs that are commonly much inferior to the bromides show a controlling action which, however unaccountable, we can not afford to ignore. Much practical discrimination is shown in the author's remarks on the various bromides, and on the methods of using them, and the other remedies to which he alludes are treated of in a like satisfactory manner. For these matters of detail we must refer the reader to the book itself.

The publishers have brought the work out in a form worthy of its great value, and we trust that it will find a large circle of readers in this country.

Cerebral Hyperæmia: Does it Exist? A Consideration of some Views of Dr. William A. Hammond. By C. F. BUCKLEY, B. A., M. D., formerly Superintendent of Haydock Lodge Asylum, England. New York: G. P. Putnam's Sons, 1882. Pp. 129. [Price, \$1.]

AFTER reading the title of Dr. Buckley's book we were scarcely prepared for the admission, on page 28, that no intelligent physician of the present day doubts the existence of cerebral hyperæmia. And we regard it as slightly in the manner of a contradiction for Dr. Buckley to assert on this same page that Dr. Hammond "assumes a condition to exist which is impossible," and then, on page 35, to declare that as a "hydraulic proposition" the "possibility" of the existence of the disease under consideration may be admitted. And again, we were at a loss to understand why Dr. Buckley had fired all his guns, great and small, at Dr. Hammond. Dr. Hammond has never set himself up as the proprietor of cerebral hyperæmia, however much he may claim to have studied it. Niemeyer, from whom Dr. Buckley quotes extensively, has a chapter on "Hyperæmia of the Brain and its Membranes," and distinctly admits the existence (p. 152, American edition, vol. ii) of a hyperæmia in which "the arteries are fuller than usual, the veins less so." This, as we understand Dr. Buckley, is the particular kind of hyperæmia of the brain to which he objects. Jaccoud

("Traité de pathologie interne," t. i, Paris, 1870, p. 107) describes a form of cerebral congestion in which the arterial pressure in the vertebro-arterial system is notably increased, and in which, consequently, there is an increased flow of blood to the brain. And his "forme légère" is Dr. Hammond's cerebral hyperæmia. Dr. J. Milner Fothergill, in an article entitled "Cerebral Hyperæmia," published in the "West Riding Lunatic Asylum Medical Reports" for 1875, begins his account of the affection with these words: "In the present condition of cerebral hyperæmia, the writer will follow the definition laid down by Handfield Jones, namely, that it is an increase in the amount of arterial blood passing through the encephalon." This is exactly in accordance with Dr. Hammond's idea of the affection, and Dr. Fothergill quotes him in support of his own opinions.

And Dr. Handfield Jones, who is quoted unfairly by Dr. Buckley, not only gives ("Studies on Functional Nervous Diseases," London, 1870, p. 86) a chapter on "Hyperæmia of the Brain," beginning with the definition as quoted by Dr. Fothergill, but goes on to say, "This true hyperæmia should be distinguished from venous congestion, which is common enough," etc.

And Dr. John Hughes Bennett, also unfairly quoted by Dr. Buckley, in considering the subject of the distribution of the blood in congestions of the brain ("Clinical Lectures," etc., third edition, Edinburgh, 1859, p. 430), speaks distinctly of an arterial congestion and a venous congestion.

Really, we can not avoid the conclusion that Dr. Buckley has rushed at Dr. Hammond without understanding either his subject or its literature.

But this is really the least of Dr. Buckley's shortcomings. An ignorant book might be forgiven, but for an unfair one—and this we shall now proceed to show Dr. Buckley's to be—there ought to be no pardon.

There are so many instances of Dr. Buckley's disregard of the simplest elements of literary fairness that we are somewhat at a loss where to begin. Our attention, however, is attracted early in the perusal of his book by the details of a case which he quotes from another work of Dr. Hammond's, and quotes, too, manifestly for the express purpose of calling attention to a statement which he declares Dr. Hammond to have made, but which was not made. Of this case Dr. Hammond writes: *

"At the end of ten days he had lost his diplopia, the pupil of the right eye had regained its natural character and irritability, and the vertigo and headache had notably disappeared. The treatment was continued, and at the end of a month he had recovered the sensibility and power on the paralyzed side to such an extent and had improved so much in other respects that I advised him to take a short journey. He was absent two weeks, during which period he continued to take the pills as before, and on his return was to all appearance well. He has since remained in excellent health."

* "A Treatise on the Diseases of the Nervous System," seventh edition, New York, 1881, p. 177 (page 161, sixth edition).

Of this explicit statement Dr. Buckley has the effrontery to write as follows (p. 11): "First of all, if the diagnosis be correct, it illustrates the marvellous, we might, indeed, say magical effects of phosphide of zinc, nuxvomica, and the constant galvanic current in curing diseases commonly considered hopeless as regards complete and permanent recovery, and all this too in the brief, short space of TEN DAYS."

On page 103 Dr. Buckley amplifies his statement of Dr. Hammond's language into "some, indeed, completely restored *after ten days' treatment.*"

Of course our readers will see that these are false assertions, for Dr. Hammond does not say that his patient was cured in ten days. He explicitly declares that some symptoms had disappeared and that others were lessened in intensity. It was six weeks before the patient was to all appearance well. Passing over, for the present, many of Dr. Buckley's lapses from honest literary criticism, we come, on page 125, to the following:

"Some *forty years* ago Wilks, of Guy's Hospital, London, discovered that bromide of potassium had a powerful influence in allaying many forms of nervous excitement, and since that time it has been very extensively adopted for such purposes; yet Dr. Hammond, with characteristic modesty, claims that he was 'the first to announce this fact to the profession, *twelve years ago.*'"

This is an entirely false statement so far as it relates to Dr. Hammond, and Dr. Buckley has made a false quotation of Dr. Hammond's language. The latter never, so far as we know, made any such claim. What he says is altogether different and refers specifically to quite another matter. On page 98 of his book on "Cerebral Hyperæmia" we find the following sentence—the one which Dr. Buckley pretends to quote:

"The action of any one of these bromides is primarily to lessen the amount of blood in the brain, as I was the first to announce over twelve years ago."

If disingenuousness has gone farther than is exhibited in these two citations from Dr. Buckley, we shall have to look for them in his book. They seem like deliberate perversions of the truth. But it has gone farther, and we find the instances before us.

On page 85 Dr. Buckley asserts that Dr. Hammond claims to have been "the first to point out that chlorosis is a nervous disease." On page 89 he goes so far as to quote Dr. Hammond's own words, that he (Dr. H.) "first pointed out this fact to the profession in 1868." On these statements Dr. Buckley builds an elaborate argument for the purpose of showing that Dr. Hammond has made a claim that is utterly unfounded.

Turning now to page 54 of Dr. Hammond's "Cerebral Hyperæmia," we find the language which Dr. Buckley falsely quotes: "The affection known as *chlorosis* occasionally presents features similar in some respects to those of cerebral hyperæmia, and indeed there is reason to believe that the

former is not only a disease of the nervous system, as I pointed out several years ago, but is in no essential respect different from the latter."

Here we see that Dr. Buckley has interpolated the word "first" in order to make a basis for his argument. How this differs morally from forgery we are unable to perceive, and really, the person who, under the guise of a critic, perpetrates such an outrage is unworthy of further consideration.

We may, however, go on to state, with reference to Dr. Hammond's original paper on the subject,* that we find this positive disclaimer of originality (*op. cit.*, p. 421): "In the communication of this opinion [that chlorosis is a disease of the nervous system] I claim nothing on the score of originality, and will presently bring forward the statements of other writers who have already promulgated it in a more or less modified form."

And then he quotes Becquerel and Rodier, and gives them the credit of indicating clearly, as far back as 1844—long anterior to the statements of Trousseau, to whom Dr. Buckley awards priority—that chlorosis has its "seat and its point of departure in the nervous system." Dr. Buckley is probably either a very young or a very old man. If the former, he has much to learn both in medicine and in ethics. The outlook, however, is bad, for such persons as he rarely learn much either of science or of propriety. If he is aged, and we incline to the opinion that he is, he has probably forgotten what he learned as superintendent of a private lunatic asylum, and has become so set in his ways that no admonitions of ours would be likely to do him any service.

A Treatise Diseases of the Eye [sic]. By HENRY D. NOYES, A. M., M. D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College, etc. New York: William Wood & Co., 1881. Pp. xii-360. [Wood's Library of Standard Medical Authors.]

THIS work is from the pen of one of the most prominent teachers of ophthalmology in the United States. It is written from the clinical standpoint, and its purpose is purely practical. Its statements are generally very clear, though concise, and the style is peculiar to the author, who is often almost epigrammatic in his way of expressing himself. The work is divided into two parts: in the *first* part are considered Disturbances of Refraction and Accommodation, the Functional Examination of the Eye, the Use of Glasses, the Theory of the Ophthalmoscope, Diseases of the Muscles of the Eyes, and the General Anatomy and Physiology of the Eyeball. In the *second* part the author discusses the Diseases of the Eye and their Treatment, and the General Subject of Ophthalmic Surgery. The work is mainly the outcome of the author's own immense experience, but he has also made use extensively of the labors of others. While the book is generally admirably clear in its statements, occasionally some obscurity creeps in, as on

* "Chlorosis a Disease of the Nervous System," "Quarterly Journal of Psychological Medicine," July, 1868, p. 417.

page 13, where, in describing the action of the ciliary muscle, the author says, "the fibers draw upon the zonula and release the crystalline from the tension," etc.; whereas actually the fibers of the muscle, by approximating the axis of the eye, relax the zonula.

The use of chloroform is advocated for children by Dr. Noyes perhaps more strongly than other ophthalmic surgeons would be willing to do. We are glad to see him calling attention to the by no means infrequent occurrence of spasm of accommodation, which has been questioned by some authors. His discussion of the action of the various extrinsic muscles and their relation to the horopter and fovea is very clear and concise. The relation of some functional nervous diseases to the eye is, in a few brief words, placed upon its proper basis. The paragraphs on the objective symptoms of muscular debility and the means for testing and treating them are very good, especially in the matter of the diagnosis of muscular paralysis. The author agrees with Schweigger and some others in discrediting the existence of amblyopia ex anopsia in strabismus. We are glad to see that Dr. Noyes puts on record the fact that a perfect cure, including the establishment of true binocular vision, is not gained in more than twenty per cent. of strabismus operations.

In part second we would also call attention to another statement of *fact*, that in catarrh of the lachrymal sac and duct a considerable number of patients never obtain more than a sort of half-cure. There are comparatively few omissions in this part of the work; among them we would cite the pre-lachrymal oily cysts, of which no mention is made. In the paragraph on vascular tumors of the lids, excision is said to be the best operation, but no mention is made of the treatment by electrolysis. In treating of the subject of ophthalmia neonatorum, we do not think Dr. Noyes places sufficient importance upon the prophylactic treatment. In addition to the use of cleansing antiseptic solutions in the vagina of the mother before delivery, we think it very important to carefully cleanse the eyes of the infants immediately after birth, with either a saturated solution of boracic acid, or a half-per-cent. solution of carbolic acid.

Again, we do not think that the author has devoted enough attention to the discussion of diphtheritic conjunctivitis, the most virulent and destructive of all inflammations of the conjunctiva. The chapter on sympathetic ophthalmia, though short, is very sound, but we think that most authorities would hold that the expression "at the very onset of the inflammatory state" as the time to perform enucleation of the injured eye should be made still stronger; for it is generally held that, if the stage of irritation has once passed into the stage of inflammation, the enucleation of the first eye has no effect upon the process in the eye secondarily affected. We also think that Mr. Critchett's advice to operate upon the second eye, by means of two needles, to promote absorption of the lens, is very questionable, owing to the loss of the nutritive and absorbent functions of the eye from the long-continued destructive inflammation.

The chapter upon cataract and its operative treatment is admirable, as is also that upon glaucoma. The subject of the etiology of the disease and the various theories propounded is admirably summed up. The comparative advantages and disadvantages of iridectomy and sclerotomy are judiciously presented in clear language, and, in explaining the manner in which iridectomy acts in reducing tension, Dr. Noyes pays a deserved tribute to the work of Priestley Smith in his investigations into the pathogeny of glaucoma. Another interesting chapter is the discussion upon embolism and thrombosis of the retinal vessels. Many of the cases of embolism reported have undoubtedly been of a mixed character, viz.: both embolism and thrombosis. Great care should, therefore, be used in asserting what the lesion is, when the retinal circulation suddenly becomes obstructed. In speaking of detachment of the retina, the author gives an interesting epitome of the theories of Rachlmann and Priestley Smith as to its causation. When we come to the chapter on diseases of the optic nerve we find a very clear statement of the various theories that have been held as to the etiology of optic neuritis with swelling of the disc, and Dr. Noyes evidently inclines to the view that cerebral œdema may be regarded as a link in the chain of causation, as more intelligible than the vaso-motor theory.

The chapter on diseases of the orbit is admirable, though we think somewhat too brief. We agree most decidedly with the author in his convictions as to the importance of early incisions in cellulitis of the orbit. It is to be regretted that he has seen fit to retain the barbarous term "tenonitis" for describing inflammation of the oculo-orbital fascia.

In conclusion, we would say that but little conception can be formed of the great difficulty under which Dr. Noyes has been placed by the necessity of condensing the enormous mass of material of his own and others' experience, so as to bring his work within the limits set him by the publishers. The work is, therefore, worthy of all praise, and we especially commend its practical usefulness. The illustrations, type, and paper are by no means up to the general high character of the book, and it is very much to be regretted that its publication in the Library of Standard Authors will stand so much in the way of its more general circulation.

The Sympathetic Diseases of the Eye. By LUDWIG MAUTHNER, M. D., Royal Professor in the University of Vienna. Translated by Warren Webster, M. D., Surgeon, U. S. Army, and James A. Spalding, M. D., etc. New York: William Wood & Co., 1881. Pp. 220.

PROFESSOR MAUTHNER'S work upon the "Sympathetic Diseases of the Eye" has been for some time before the profession in the original German. It is one of a series of monographs by the same author upon ophthalmological subjects. It is an attempt to popularize the subject for the general practitioner, but at the same time it is really a standard work for the ophthalmic specialist. The high rank of the author and the excellent work

which he has done in the past would be sufficient to stamp this production with the seal of authority, while the inherent excellence of the monograph places it in the front rank of medical literature. The translators have divided the work into six chapters: one consisting of some preliminary remarks, followed by chapters or sections on anatomy, etiology, pathology, pathogeny, and therapeutics. In the section on etiology the author's remarks on iridectomy and iridodesis and the various operations for the relief of cataract, as factors in the causation of sympathetic ophthalmia, are exceedingly well-written and clear statements of the views at present held by ophthalmic surgeons. He refers, in a few well-chosen words, to the recognized possibility of sympathetic disease occurring without any disease of the ciliary, and even without any well-defined lesion of the uveal tract. Mauthner believes that, even after the complete recovery of one eye from an attack of cyclitis—a recovery not ending in atrophy of the globe—the other eye is not thereby absolutely assured of immunity against an outbreak of sympathetic ophthalmia. Under the head of pathology he discusses briefly the various forms of sympathetic inflammation, such as kerato-iritis, scleritis, and diseases of the uveal tract. He regards iritis serosa as the least severe form of inflammation of the uveal tract, and insists on an accurate discrimination between the plastic and the serous forms of sympathetic iritis, the former being very prone to develop into that more severe grade of iritis in which the adhesions rapidly involve the whole circumference of the pupillary border. He refers to the occurrence of secondary glaucoma as a result of this state of things, and also to the absolute and gradual extinction of vision without any intercurrent inflammatory phenomena whatever. He also ventures on the statement, in which most ophthalmologists will agree with him, that, when a case of iritis serosa has degenerated into a worse form of iritis, after the enucleation of the first eye, the operation itself has, in all probability, been the cause of the new sympathetic process.

In taking up the subject of sympathetic affections of the optic nerve, which he calls an uncommonly dark province, he regards it as doubtful whether typical simple non-inflammatory glaucoma can be unconditionally admitted into the group of sympathetic affections; and, further, that the existence, as a sympathetic affection, of acute primary glaucoma, with all its peculiar inflammatory phenomena, must be regarded as extremely problematical. In the section on pathogeny the author discusses the various theories of transmission of the irritation which have at various times been advanced. He rejects the theory of transmission to the choroid of the second eye through the medium of the optic nerve and retina; and he is not inclined to admit that the motor fibers of the third pair of nerves, which supply the sphincter iridis and the ciliary muscle, as well as those fibers of the sympathetic which supply the dilator pupillæ, have anything to do with the transmission of sympathetic inflammation. He then considers the sensitive fibers of the trigeminus, and the vascular nerves of the sympathetic.

It is impossible to deny that in very many cases the inflammatory irritation passes from the ciliary nerves of the one side to the corresponding ciliary nerves of the other, so that finally inflammation can be excited in the tissues to which these nerves are distributed. But it is impossible to tell whether the inflammation is transmitted by the sensitive nerves or by the sympathetic fibers. The subject of transmission by means of the optic nerve fibers, which has come up again of late, is discussed with much interest and at considerable length. Mauthner considers that the sensitiveness to light, rapid weariness of the eye at work, photophobia, flashes of light, and sparks before the eyes, are manifestations of irritation propagated from one optic nerve to the other. When a microscopic examination reveals proliferated connective tissue in the intraocular end of the optic nerve of the enucleated eye, we must conclude that such a proliferation of interstitial connective tissue would gradually compress the bundles of nerve fibers more and more closely, and finally give rise to mere mechanical irritation. Mauthner thinks that, on the whole, the question is not whether the sympathetic affection is transmitted along the optic nerves or along the ciliary nerves, nor whether the transmission takes place more frequently along one path than along the other. It may be effected in both ways. But by this we must not understand that one and the same morbid process can be transmitted, now along one path and now along the other. Irritative and inflammatory conditions are transmitted from the optic nerve and retina along the optic nerve, while those inflammatory processes which are chiefly observed in that portion of the eye which is nourished by the ciliary nerves, and especially in the uveal tract, are transmitted along the ciliary nerves. There is not the least doubt that the sympathetic inflammation may frequently be transmitted along both paths at once or at short intervals, so that many symptoms in sympathetic affections of the uveal tract are not to be attributed to the inflammation of the uveal tract, but to a simultaneous inflammation of the retina and optic nerve. Mauthner regards Goldzieher's theory of a wandering neuritis, as the anatomical cause of sympathetic inflammation, as lacking any satisfactory basis.

The section on therapeutics is extremely satisfactory, and the author's conclusions as to when to operate and how are eminently just. His creed on the question of enucleation is briefly as follows: It *may* be performed as a preventive; it *must* be performed in the stage of irritation; it *can not* be performed in iritis serosa and iritis plastica; it *can* be performed in iridocyclitis plastica, provided the eye causing sympathy is totally blind, but not in a state of violent irritation. Mauthner also discusses what operations may be performed upon the eye sympathetically affected, under which head are included iridectomy and iridotomy. The subject of optico-ciliary neurectomy and neurectomy is considered, and the chapter concludes with an enumeration of the therapeutical resources in cases of injuries of the eye, other than operative means.

This work is a most valuable addition to the library of any physician or

surgeon, and is most heartily recommended as containing the very soundest views upon an all-important subject.

A Treatise on Human Physiology, designed for the use of Students and Practitioners of Medicine. By JOHN C. DALTON, M. D., Professor of Physiology and Hygiene in the College of Physicians and Surgeons, New York, etc. Seventh edition, with 252 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. 722.

THIS edition of Dr. Dalton's well-known work bears evidence of having been thoroughly and carefully revised. From the first appearance of the book it has been a favorite, owing as well to the author's renown as an oral teacher as to the charm of simplicity with which, as a writer, he always succeeds in investing even intricate subjects. It must be gratifying to him to observe the frequency with which his work, written for students and practitioners, is quoted by other writers on physiology. This fact attests its value, and, in great measure, its originality. It now needs no such seal of approbation, however, for the thousands who have studied it in its various editions have never been in any doubt as to its sterling worth.

The present arrangement of its matter, differing somewhat from that of previous editions, is as follows: Following an introductory chapter, a section devoted to physiological chemistry contains chapters on the chemical ingredients of the body; on the inorganic substances; on the hydrocarbonaceous substances; on the albuminoid substances; on the coloring matters; on the crystallizable nitrogenous matters; and on food. A section on the functions of nutrition treats of digestion; of absorption; of the blood; of respiration; of animal heat; of the circulation; of the lymphatic system; and of the urine. The section on the nervous system includes the general structure and functions of that system; nervous irritability and its mode of action; the general arrangement of the nervous system; the spinal cord; the brain; the cranial nerves; the sympathetic system; and the senses. The section on reproduction considers the nature of reproduction and the origin of plants and animals; the egg and the female organs of generation; the spermatic fluid and the male organs; ovulation and menstruation; the corpus luteum and its connection with menstruation and pregnancy; the development of the impregnated ovum, the segmentation of the vitellus, the blastoderm, and the formation of organs in the frog; the formation of the embryo in the fowl's egg; the accessory embryonic organs—the umbilical vesicle, the amnion, and the allantois; the human amnion and chorion; the development of the decidua and the attachment of the foetal membranes to the uterus; the placenta; the expulsion of the foetus and placenta, and the regeneration of the uterine tissues; the development of the nervous system, the organs of sense, the skeleton, and the limbs; the development of the alimentary canal and its appendages; the development of the Wolffian bodies, the kidneys, and the internal organs of generation; the develop-

ment of the vascular system; and the development of the body after birth.

Were we to signalize any one part of the book as bearing the plainest marks of the author's capability, we should point to the last section, in which the great subject of embryology—one that was a bugbear to the student of medicine but a few years ago—is so handled as to be readily grasped by any reader of fair attainments. The section on physiological chemistry, too, has always been a favorite, and for like reasons. In the present edition it is, in the main, brought well up to the present state of our knowledge; but we regret to notice one feature in it that seems to us likely to confuse the student. We refer to the use of the words *stearine*, *palmitine*, *oleine*, *pepsine*, *fibrine*, etc., instead of *stearin*, *palmitin*, and so on. This is not so small a matter as it may seem, for it is liable to blind the student to the wholesome tendency lately shown to apply names ending in *ine* only to alkaloids, except, of course, in the case of such words as iodine, bromine, and the like, which, referring to inorganic bodies, are not likely to give rise to confusion. Should the nomenclature alluded to be generally adopted, the reader, coming upon the name of any new organic principle ending in *ine*, would know at once that the substance was an alkaloid, and would thus be saved the trouble of looking up that point at least. As it is, Dr. Dalton has, unthinkingly, we must presume, thrown the weight of his influence against what seems to us a useful course. It is perhaps defensible for him to retain the old word *albumen*, instead of accepting *albumin*, but he certainly carries his preference for the letter *e* too far when he persistently writes *albumenoid* in place of *albuminoid*.

Like the spots on the sun, however, these minor blemishes do not appreciably dim the luster of the work, and we again commend it, in the tasteful dress the publishers have given it, to the continued favor of the profession.

Kirkes's Hand-Book of Physiology. By W. MORRANT BAKER, F. R. C. S., Lecturer on Physiology, and Assistant Surgeon to St. Bartholomew's Hospital, etc. Tenth edition. Philadelphia: Presley Blakiston, 1881. Pp. xvi-862. [Price, \$5.]

For the use of practitioners and students of medicine we know of no more serviceable hand-book of physiology than this. The work is already well known, and this tenth edition seems to have been very carefully revised by Mr. Baker. Its general accuracy seems all that can reasonably be expected, but a notable exception is found on p. 283, where the formula of glucose is given twice (correctly as $C_6H_{12}O_6$, and incorrectly as $H_6H_{12}O_6$). Of course, this is only a typographical error, but a slip of that sort in chemical notation is a very important matter. The appendix, devoted to physiological chemistry, strikes us as particularly valuable. Another noteworthy feature is the general excellence of the woodcuts. Most

of them are copies, it is true, but that they are not mere slavish reproductions is evident from the fact that at least some of them are better executed than the originals. We should be glad to see the book largely used in this country.

A Study of the Tumors of the Bladder, etc. By ALEX. W. STEIN, M.D., Surgeon to Charity Hospital, etc. New York: William Wood & Co., 1881. Pp. xi-94.

On the basis of four cases that have come under his own observation, and a careful analysis of the literature of the subject, Dr. Stein has constructed an admirable monograph—one that deserves to rank as a standard with those who devote themselves to vesical surgery. Classifying tumors of the bladder as papillomata, polypi, carcinomata, myomata, sarcomata, and bony tumors, the author discusses their symptomatology, diagnosis, prognosis, and treatment, in a manner alike creditable to himself and valuable to the reader. Dr. Stein summarizes his work in the form of the following conclusions: 1. In a few remarkable instances, in the case of women, apparent recovery seems to have resulted from a spontaneous expulsion of growths from the bladder. But in general it may be said that tumors of the bladder, if uninterfered with, are inevitably fatal. And, although they may exist for several years without creating much distress, a fatal termination almost invariably ensues in a few weeks or months from the outbreak of active symptoms. 2. Death results most frequently from hæmorrhage, and from the effects of mechanical obstruction to the outflow of urine. Hence the indication would be, to remove the growth while the general condition of the patient was yet favorable for an operation, before the subject had become exhausted from loss of blood, or the kidneys and bladder had become so much diseased as to make recovery impossible even in the event of successful extirpation. 3. In women, because of the accessibility of the bladder to direct exploration, there is no excuse for temporizing, and the surgeon should lose no time in acquiring an exact knowledge as to the existence, nature, etc., of the tumor, and, if practicable, attempt its removal as early as possible. 4. The results thus far attained, in the case of women, could scarcely be more satisfactory, and, excepting one instance in which the bladder was accidentally perforated, it does not appear that the fatal termination was precipitated by the operation in any of the cases. 5. In the male, the propriety of operative interference must necessarily always be a more serious question, because of the occasional uncertainty of diagnosis, and because of the gravity of the undertaking necessary for the removal of the growth. Nevertheless, the results thus far attained by operation are most encouraging, and in every way justify repetition. 6. From a number of autopsies we learn that the successful operations might have been multiplied: first, in those cases in which no operation was attempted, although the growths could have been removed easily, and apparently with every prospect of success; and, again, in those in which the

operation was too long deferred, which, it is reasonable to assume, would have terminated successfully had it been undertaken at an earlier period. 7. Given a positive diagnosis of tumor, the absence of severe secondary symptoms should be no excuse for deferring the operation. On the contrary, the earlier the growth is removed the better the prospects of complete recovery. With a healthy bladder and kidney, cystotomy is not so dangerous an operation as to warrant any delay. 8. Evidence strongly pointing to the existence of a tumor, with severe catarrhal symptoms or with spasm of the bladder and much suffering, will often justify an operation; for, if a tumor is found, its extirpation will afford the only chance for life, and, if no growth exists, or the bladder is occupied by an irremovable cancer, the cystotomy may at least afford temporary relief from suffering.

Diseases of Women, including their Pathology, Causation, Symptoms, Diagnosis, and Treatment. A Manual for Students and Practitioners. By ARTHUR W. EDIS, M. D. Lond., etc., Assistant Obstetric Physician to the Middlesex Hospital, etc. With 148 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. 576.

As a manual for students and practitioners, Dr. Edis's work is one of considerable value, for it is quite comprehensive, and presents a very fair summary of the gynæcology of the present time. Moreover, more attention is given in it to dietetic and medicinal measures of treatment than in many of the hand-books in common use. From the specialist's point of view, it is to be regretted that the work displays so little individuality, but it is gratifying to find so much American teaching incorporated in a book of foreign origin. Dr. Edis's descriptions of disease are generally clear and satisfactory, but we have little respect for the scholarship of a writer who speaks of *Bartholini's* glands, who uses the phrase galvanism *and* electricity, and who repeatedly calls a forceps a *forcep*. If the publishers have any desire to turn out creditable work, we would advise them to procure a new stock of Greek type, including at least one uniform set.

Fistula, Hæmorrhoids, Painful Ulcer, Stricture, Prolapsus, and other Diseases of the Rectum: their Diagnosis and Treatment. By WILLIAM ALLINGHAM, F. R. C. S. E., Surgeon to St. Mark's Hospital for Fistula, etc. Fourth edition. Philadelphia: Presley Blakiston, 1882. Pp. viii-332. [Price, \$3.]

THERE is little positively new in this edition of Mr. Allingham's very practical work, but the volume as a whole shows signs of considerable pains having been taken in its revision.

The treatment of hæmorrhoids by means of injections of carbolic acid does not seem to commend itself to the author, who says that the results

have not been altogether satisfactory in the few instances in which he has tried it. He holds very much the same opinion, too, of "*cautérisation ponctuée*." As to "*cautérisation linéaire*," he does not doubt its efficiency, but remarks that the process of recovery is rather long and the pain considerable. For removing hæmorrhoids, and for other operations about the rectum, he prefers Paquelin's to the galvanic cautery. He is no more favorable to the clamp and cautery than formerly, preferring the ligature in the great majority of cases of hæmorrhoids. He speaks highly, however, of Dr. Van Buren's method of treating prolapse with the cautery.

The book is well worthy of study by every practitioner.

A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, etc. By JOHN M. MAISCH, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xv-25 to 459, inclusive.

THE brief and vague references made in this book to the therapeutical uses of the drugs of which it treats scarcely make it of value to others than druggists and pharmacists, and we can hardly imagine that even they would often find in it information which could not be had, in far more satisfactory fullness of detail, from the standard works on pharmacology.

Sensation and Pain. By CHARLES FAYETTE TAYLOR, M. D. New York: G. P. Putnam's Sons, 1881. Pp. 77. [Price, 75c.]

UNDER a somewhat inadequate title, this little book embodies a lecture on the general action of the nervous system, given in one of the public courses of the New York Academy of Sciences; and a very pleasant lecture it must have been to listen to. Making due allowance for the magisterial style one is almost forced to fall into in discoursing of scientific matters to the general public, it will prove profitable and agreeable reading for the novice in physiology.

Marriage and Parentage, etc. By a Physician and Sanitarian. New York: M. L. Holbrook & Co., 1882. Pp. viii-3 to 185, inclusive.

THE anonymous author of this little book displays in its pages an enthusiasm somewhat in excess of his exact knowledge, and far in excess of his critical discrimination. The tone of the work, however, is a good and wholesome one, and, to the reader who will bear its faults in mind, it can scarcely fail to prove suggestive of profitable reflection. We have not found in it any of the pruriency that is so apt to lurk in books on subjects of the sort it treats of.

BOOKS AND PAMPHLETS RECEIVED.—The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery. By authors

of various nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated by chromo-lithographs and woodcuts. In six volumes. Vol. II. New York: William Wood & Co., 1882. Pp. xl-754. ===== Labor among Primitive Peoples: showing the Development of the Obstetric Science of To-day, from the Natural and Instinctive Customs of all Races, Civilized and Savage, Past and Present. By George J. Engelmann, A. M., M. D., Professor of Obstetrics in the Post-graduate School of the Missouri Medical College, etc. Fifty-six illustrations. St. Louis: J. H. Chambers & Co., 1882. Pp. xviii-203. ===== Cerebral Hyperæmia: Does it Exist? A Consideration of some Views of Dr. William A. Hammond. By C. F. Buckley, B. A., M. D., formerly Superintendent of Haydock Lodge Asylum, England. New York: G. P. Putnam's Sons, 1882. Pp. 129. [Price, \$1.] ===== Dysmenorrhœa: its Pathology and Treatment. By Heywood Smith, M. A., M. D. Oxon., Physician to the Hospital for Women and to the British Lying-in Hospital, etc. London: J. & A. Churchill, 1881. Pp. x-122. ===== Is Consumption Contagious, and can it be transmitted by means of Food? By Herbert C. Clapp, A. M., M. D., Professor of the History and Methodology of Medicine, etc., in the Boston University School of Medicine, etc. Second edition. Boston: Otis Clapp & Son, 1882. Pp. 187. [Price, 75c.] ===== Hereditary Syphilitic Eruptions of the Skin in Early Life; or, Congenital Syphilo-Dermata. By James Startin, Surgeon and Joint Lecturer to St. John's Hospital for Skin Diseases, etc. London: Henry Renshaw, 1882. [Pamphlet.] ===== Essays on the Floating Matter of the Air in relation to Putrefaction and Infection. By John Tyndall, F. R. S., etc. New York: D. Appleton & Co., 1882. Pp. xix-338. ===== Florida for Tourists, Invalids, and Settlers, etc. By George M. Barbour. With map and illustrations. New York: D. Appleton & Co., 1882. Pp. 310. ===== The Concepts and Theories of Modern Physics. By J. B. Stallo. New York: D. Appleton & Co., 1882. Pp. 308. [International Scientific Series.] ===== Household Hints. By Emma Whitecomb Babcock. New York: D. Appleton & Co., 1881. Pp. 144. [Appletons' Home Books.] ===== Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Second edition. By Thomas F. Rumbold, M. D., Professor of the Diseases of the Nose, Throat, and Ears in the College for Medical Practitioners of St. Louis, etc. St. Louis: Medical Journal Publishing Co., 1882. Pp. 190. [From J. H. Vail & Co., New York. Price, \$1.50.] ===== Medical Communications of the Massachusetts Medical Society. Vol. xiii, No. 1, 1882. ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.



Proceedings of Societies.

NEW YORK MEDICAL AND SURGICAL SOCIETY.

A STATED meeting was held April 22, 1882, Dr. T. GAILLARD THOMAS, President, in the chair.

TREATMENT OF DERMATO-CELLULITIS BY THE ACTUAL CAUTERY.—To similar cases related at the last meeting, Dr. A. C. Post added the following: The patient, a butcher, about forty years old, injured his forearm against a meat-hook more than a year ago. Cellulitis was excited, which became chronic and had existed ever since. The arm was greatly swollen and brawny, and its movements were materially interfered with. Repeated blistering had effected some benefit. Dr. Post applied the actual cautery at a number of points a week ago, and to-day the inflammation was seen to have greatly subsided. Ether having been administered, the patient suffered no pain during the operation, nor afterward, because of the bicarbonate-of-sodium dressings. — Dr. Post also referred to the further progress of the case of lumbar colotomy related at the last meeting. The temperature was normal, there had been no unfavorable symptoms, the principal portion of the fecal evacuations took place through the artificial opening; it was evident that a large amount of the impacted feces had broken down and come away.

UTERINE HÆMORRHAGE; INDUCTION OF PREMATURE LABOR; DIARRHŒA EXCITED BY A SMALL DOSE OF SENNA AND SULPHATE OF MAGNESIUM.—Dr. Post related this case also. The patient was to have been confined in her seventh pregnancy within about a month, when sudden and profuse uterine hæmorrhage occurred, due to the work and excitement incident to moving. Although there had been no uterine pains, and hæmorrhage had almost ceased when Dr. Post arrived, fearing a return he induced premature labor. The hand was introduced, one foot was pulled down, an unsuccessful attempt at turning was made, then the forceps was applied at the superior strait; but delivery could not be effected without undue traction force. At length two drachms of Squibb's fluid extract of ergot were given, and an hour later severe pains came on, which caused so much suffering as to render the use of chloroform necessary, a few drops of which on a handkerchief gave substantial comfort. The child was then soon born. It never breathed. There was scarcely any hæmorrhage. The next morning the patient complained of soreness in the left groin; the pulse was rather frequent, the temperature a little elevated, and Dr. Post feared cellulitis. He gave a sedative dose of calomel, with the hope that it might act also as a laxative, but it was retained twenty-four hours without an evacuation. He then ordered an enema containing half an ounce each of infusion of senna and sulphate of magnesium, and half a drachm of cardamom seeds, one third of which was administered. This was followed very soon by copious and frequent watery evacuations, attended with some griping, which continued from Thursday until late Friday night, at which time Dr. Thomas saw the patient in consultation. Morphine and tannin had been given by the mouth, by the rectum, and hypodermically, without apparent effect. At Dr. Thomas's suggestion, chlorodyne was then tried, with the result that from 2.30 A. M. to 5.30 P. M. not a single pas-

sage had taken place. Her stomach was yet very irritable, and the pulse was rapid and rather feeble, but it was probable she would recover. Dr. Post was very much impressed with the remarkable effect which seemed to result from so small a dose of senna and sulphate of magnesium.

OVARIAN TUMOR OF LONG DURATION.—On Thursday last Dr. T. A. EMMET removed an ovarian tumor of twenty years' standing, weighing fifty-six pounds. The case was also interesting because of obscurity in the diagnosis. Menstruation had ceased some years ago, the uterine canal was still three inches in depth, the presence of fluid had been recognized many years. At the operation the adhesions were found to be exceedingly extensive. Still, the patient was doing well.

The PRESIDENT remarked that this case called up a very interesting subject for discussion, viz., the duration of ovarian tumors. Simpson had said that ovarian tumors generally ended fatally within three years after their discovery, unless relief was afforded by surgery; and the general impression seemed to be that they very rarely lasted longer than ten years. Dr. Emmet had just related a case which unquestionably had lasted twenty years. The President had seen a number lasting from nine years upward. Nine years ago he saw, with Dr. Noeggerath, a patient who had had an ovarian tumor for two years. Nine years later they saw her again, and the tumor was removed by Dr. Noeggerath. It had therefore been of at least eleven years' duration. Some years ago he removed an ovarian tumor which he had diagnosed nine years previously. About a year ago he removed a tumor of the ovary almost purely monocystic, weighing between fifty and sixty pounds, which had been diagnosed as an ovarian tumor by Dr. Sims, at the Woman's Hospital, twenty-four years ago. The patient recovered from the operation. This evening he presented a monocyst of the ovary which had been carried twenty years. It was removed at the Woman's Hospital Tuesday last, weighed forty pounds, was smooth and pearly in appearance, and had scarcely any adhesions, notwithstanding the fact that during the past twenty years it had been tapped thirteen times. That there had been but the single tumor was shown by the fact that at each tapping the fluid withdrawn had the appearance of soap-suds, and the tumor at no time had entirely disappeared.

SPASMODIC STRICTURE OF THE ŒSOPHAGUS.—Dr. FRANCIS DELAFIELD narrated a case as follows: The patient was an unmarried woman, twenty-three years of age. He saw her first on the 16th of February, 1882, when she stated that she had always enjoyed good health until eighteen months before. At that time she began to suffer from attacks of severe pain which was referred to the region of the lower end of the œsophagus. These attacks occurred about once a week, lasted ten or fifteen minutes, and had no relation to the taking of food. They sometimes occurred in the night, sometimes in the day. There were no other symptoms whatever. After three months she experienced difficulty in swallowing solids, and subsequently in swallowing liquids. At length she could take no solid food, and liquids could be swallowed only at times. On some days she could swallow nothing whatever. She starved to a certain extent, but had no other symptoms. Menstruation continued regular, and there were no neurotic symptoms. Dr. Delafield was able to pass a large œsophageal tube into the stomach, and he therefore supposed the case was one of spasmodic stricture of the œsophagus, and at first attempted to treat it by passing the bougie every day, under which she seemed to improve for a time only. On some days she could

swallow fluids, but oftener she could not, and as she gained nothing in weight she was taught how to introduce half a pint of milk and half a pint of cream, mixed, into the stomach through the stomach tube, to be repeated once a day. Besides, she was to try to eat regularly. She had done this since the 9th of March, and during all this time had been able to eat solid food at any time in the day, but it was her custom to eat an ordinary meal for breakfast and dinner, and to take the milk and cream in the manner indicated in the evening. From her normal weight of 125 pounds she had fallen to 99 pounds, but after adopting this plan she had gained 14 pounds. It was probable, however, that, like some cases of spasmodic stricture which had been reported, this one would continue for a long time.

Dr. R. F. WEIR suggested that possibly the stricture might be overcome by over-distension, as in cases of stricture of the rectum or urethra. An œsophageal tube, with a rubber bulb at the lower end, which could be distended with water, might be arranged for the purpose.

Dr. F. N. OTIS remarked that a very slight amount of force would sometimes overcome spasmodic stricture of the urethra, and such might perhaps be the case with the œsophagus.

Dr. DELAFIELD thought that in the so-called spasmodic stricture of the œsophagus there was no particular resistance to the passage of the bougie.

RAPID LITHOTRITY.—Dr. WEIR mentioned the case of a man seventy-six years of age, who had suffered from symptoms of stone in the bladder for a year. The stone was found to be of uric acid, an inch and a quarter in its longest diameter. The prostate was enlarged, the muscular tissue between the mouths of the ureters was elevated, and a pouch was formed posterior to this point, in addition to the one caused by the prostatic hypertrophy, which made extraction of the stone unusually difficult.

A WINTER RESORT FOR CONVALESCENTS.—Dr. J. T. METCALFE spoke in most favorable terms of Lakewood, New Jersey, as a desirable resort, during the winter and spring, for convalescents from New York. The points which recommended it were, ease of access, the peculiar dryness of the air, the temptations to walk and drive, sheltered spots in the pine-woods, pure soft water, good drainage, fine scenery, and a well-kept hotel.

MELANCHOLIA SUDDENLY CURED BY VENESECTION.—Dr. FORDYCE BARKER related a case which he thought interesting in its therapeutical and also in its psychological aspects. On the 3d of March, 1882, he was called to see a lady in consultation. He had never attended her professionally, but had known her socially for years. She was forty-nine years of age, and had been married thirty-two years, but had never been pregnant. Until August, 1881, her health had been perfect, and she had menstruated regularly every twenty-eight days. Menstruation ceased in August, 1881, but no symptoms developed until December, when she began to suffer from insomnia and nervous irritability. This was treated with bromide of potassium, hydrate of chloral, tonics, etc., but without effect. In January, 1882, besides having insomnia and being irritable, she showed general discontent and dissatisfaction, especially toward her husband, with whom she had always lived in perfect harmony, being cheerful and happy. This aversion extended to his most intimate friend, her physician. She became despondent regarding religious matters, and desired to be at church constantly; the more exciting services suited her best. At first she desired her husband to go with her, but subsequently she would have no attendant but a maid; then

she desired to go alone. She spent most of the night walking the room, and would not have her husband about; she lost appetite and rapidly became emaciated, her whole appearance being changed. When Dr. Barker saw her, instead of finding a woman with a ruddy, healthy look, and cheerful, happy disposition, as formerly, he saw an extremely thin, pallid woman, with very white lips, constantly winking, and changing the object of view, the eyes being somewhat red. She answered his questions in an abrupt manner, and those of her husband and physician rudely. Consulting with her physician, Dr. Barker advised venesection. He objected, as she was anæmic, etc., but finally consented. To his surprise the patient at once consented by rudely thrusting out her arm to have it done. The pulse was quick and tense. As the blood began to flow, her countenance changed; she looked upon it with a most remarkable expression of contentment. After a few ounces had flowed, she exclaimed that it was "lovely, beautiful"; and her countenance became smiling. She objected to Dr. Barker's stopping the flow. Twenty ounces of blood were withdrawn. Two days later he called, and learned that she had slept well, had eaten heartily, and was in her natural state of mind. When he called again, on the 2d of April, she had gained in weight, and looked, as her husband said, like another person; but she insisted on his bleeding her again. He took away four ounces of blood. April 22d she called at his office and requested him to come and bleed her about the 1st of May, as she was sick regularly every twenty-eight days, and asked if he did not think that, had Guiteau been bled, "it would have taken the pressure off his mind, so that he would not have murdered President Garfield?" She then went on to state that during this time she read everything concerning the assassination, because Guiteau spoke of a sense of oppression, and, with expressions of horror at the thought, spoke of intentions to kill her husband and herself during this period of darkness and oppression. Such thoughts would haunt her continually, at church and elsewhere; and one night, after praying two or three hours, she rose and threw a bottle of poison out of the window. Lest there should be a relapse, she insisted upon his coming and bleeding her at the time mentioned. In answer to questions, she said there had been no headache, no dizziness, no vertigo, and no disturbance of vision. Her reading had related altogether to the Guiteau case. Dr. Barker said he would not attempt to explain the pathology of the case or the therapeutical effect of venesection.

Dr. Post referred to the case of a woman who consulted him for frontal headache. She had passed the menopause, was of small stature and slender, and nothing indicated a hypersthenic condition. He endeavored to relieve the headache by means of revulsives, foot-baths, laxatives, etc., but without effect. She stated that she had formerly obtained relief by bleeding, which he then resorted to, notwithstanding her spare habit. The relief was complete. It was repeated at intervals of about six months—as often as the headache returned, and with like results. She passed from under his care for two or three years, when he was sent for one night and found her in a semi-comatose state. Although unable to speak, she recognized him and pointed to her elbow to indicate that he should bleed her. He did so very freely, and gave complete relief.

A STATED meeting was held May 13, 1882, Dr. T. GAILLARD THOMAS, President, in the chair.

LARGE DOSES OF QUININE IN REMITTENT FEVER.—Dr. H. F. WALKER related a case as follows: the patient had complained of vague symptoms about a year.

Two and a half months ago he had a declared attack of intermittent fever, which was controlled with moderate doses of quinine. Being apparently quite free from all malarial trouble, he took a voyage to Cuba, where his fever returned. The temperature reached $104\frac{1}{2}^{\circ}$ F. The chills were only occasional, but the fever was continuous, with irregular exacerbations. There was sweating, and on one occasion, three weeks from the commencement of his last illness, he had intense pain in the bladder, for which he was advised to apply a rubber bag of hot water. This he did with such effect as to draw a blister and produce considerable sloughing. He was given quinine, at first twenty grains, then thirty, forty, and lastly sixty grains, in three doses of twenty grains in three consecutive hours. The latter amount, with twenty grains at night, had controlled his fever during the past fortnight. On diminishing the amount ten grains experimentally, he had another chill, and fever for three days, which was controlled only by increasing the dose again to eighty grains daily. His temperature had now been normal for several days, and he was apparently convalescing. He had always been constipated, but during this illness his bowels had been regular without diarrhœa. The diet had been milk. He was also given one sixtieth of a grain of strychnia thrice daily. The case was interesting as showing the tolerance of doses of quinine which were large for this part of the country.

Dr. J. W. McLANE remarked that when he was House Physician at the New York Hospital he was in the habit of giving quinine in doses of from sixty to ninety grains to patients with congestive remittent fever coming from Aspinwall, small doses doing no good whatever; but he did not think such large doses were necessary in cases of fever contracted in this section of country.

The PRESIDENT said this subject was one which interested him particularly, and he looked upon it as of great importance. He had spent twenty-one years of his life among the rice-fields of South Carolina, where they had congestive fever, or malarial fever of the most violent character, from which many people died annually. A gentleman would leave his summer house, which was usually on a sandy pine region, and go to his plantation and remain during the day with perfect immunity, but if he remained during the night he would with almost absolute certainty be taken with severe malarial fever, the treatment for which was immense doses of quinine, sometimes drachm doses being given. On coming to New York, thirty years ago, he found that the physicians here attributed this tolerance of large doses of quinine to a supposed inferior quality of the drug, but this was a mistake, as much of it was bought by individuals from the best firms in London and Paris. On becoming physician to Bellevue Hospital, many cases were brought there of fever contracted during the grading of the Panama Railroad, the severest of which he treated by giving drachm doses of quinine, and thus doubtless saved many lives which would have been sacrificed had the drug been administered in only scruple doses. He had seen this case with Dr. Walker, and had urged him on in giving larger doses, and he had treated similar cases repeatedly in this city, with the following results: beginning with ten grains of quinine three times a day, the fever would continue; the dose would be increased to twenty grains three times a day, then forty, fifty, and in severe cases even sixty grains three times a day, the fever at last being checked. One case was so remarkable that he specially alluded to it. A gentleman owned a very handsome place in Westchester County, ten miles from the city, the healthfulness of which was doubtful. His lawn was plowed, and immediately malarial fever appeared in his household. He was taken with the most violent congestive

fever that Dr. Thomas had ever met with, except where death occurred with the second or third chill, as often happened in the rice-fields of South Carolina. The late Dr. Stone was attending the patient, and was giving large doses of quinine, when Dr. Thomas saw him—half-drachm doses three times a day. Another chill occurred, and the dose was increased to three drachms a day, and the patient was brought to the city, where Dr. Clark and Dr. Flint aided him in the treatment. After three or four days, while still taking three drachms of quinine a day, he had another chill, and Dr. Thomas gave him four drachms of quinine a day. Four days afterward, another chill occurring, the amount was increased to four drachms in twenty-four hours, Dr. Clark and Dr. Flint consenting hesitatingly. At this time he temporarily lost hearing and sight almost entirely, being able to hear only loud noises, and to distinguish between light and darkness. The dose was then diminished to three drachms a day, when he had another chill and was removed to Long Branch, where he could get the benefit of the sea-air. 120 grains of quinine were given daily for some time, until finally he recovered, and was to-day a perfectly healthy man. The impairment of sight and hearing lasted only a few hours. The best sulphate of quinine was given in wafers, followed by a drink of sulphuric-acid lemonade. This was the only case in which he had ever given so large a dose, and here it was resorted to because death seemed to be inevitable without it. Some years ago Dr. Samuel Henry Dickson, professor in the University Medical College, told him of treating an eminent physician of this city for a severe fever contracted in the South. He first gave twenty grains of quinine three times daily, and increased it to thirty, forty, fifty, and then sixty grains three times daily, when the fever was controlled. A relapse would take place when the dose was diminished, until after some time, when he recovered.

Dr. B. W. McCREADY thought a part of the drug, when given in large doses, might be thrown off from the system by the excretory organs. When given in pill form, made according to the old formula employed years ago, the pills frequently passed the bowels undissolved and unchanged.

Dr. ROBERT WATTS had seen five cases of this fever in the South treated by giving twenty grains of quinine every hour, until 120 grains were administered. The patients all recovered without a bad symptom.

Dr. McCREADY remarked that some patients were easily affected by even small doses of quinine. One patient of his, a man of middle age, was rendered delirious by grain doses—he could not take quinine at all. Others bore very large doses before any evidence was given that the quinine had produced its effect. In his own person, fifteen grains were required in health to produce slight deafness.

Dr. A. C. POST always preferred to give it in solution if the patient would so take it, other forms being more uncertain. Ten grains affected his ears.

The PRESIDENT remarked that in Dr. Walker's case fifteen grains, which were given at first, caused buzzing of the ears, but larger doses had no such effect, tolerance having apparently been established. He replied in the affirmative to a question by Dr. A. B. BALL, whether it was not true that, when ten or fifteen grains had no marked effect, the patient experienced little trouble from double the quantity. To Dr. McLANE's question whether the malarial fever of the South differed from that of the North except in intensity, he replied that he thought not.

Dr. FRANCIS DELAFIELD thought the President rather under-estimated the

amount of quinine often given in twenty-four hours in New York. It was often given in doses of 100 and even 200 grains a day. This morning he was called to see a woman with a form of acute mania, caused by a large dose of this drug ordered by her physician. The maniacal symptoms passed away before evening. The quality of the drug was certainly variable; the doses given at Bellevue Hospital were of double the size of those employed by the same physicians outside.

Dr. F. N. Otis said that when surgeon in the Pacific Mail Steamship Company's service he saw a great deal of malarial fever in the tropics, and was in the habit of treating it with large doses of quinine, say twenty grains repeated every hour or two, to which many cases yielded, while others did not. He learned that British surgeons at stations on the African coast, and elsewhere, had great success with Warburg's tincture, then a proprietary medicine the ingredients of which were unknown to the profession. Dr. Otis found it much more effectual than simple doses of quinine, in whatever quantity given, cases of pernicious fever usually being broken by it in one day, half an ounce being given night and morning. He had repeatedly seen cases of pernicious malarial fever which would not yield to large doses of quinine, but did so readily to Warburg's tincture.

Dr. McCREADY thought the tincture had become less efficacious since the formula had been published.

EPITHELIAL CANCER OF THE BRONCHI AND TRACHEA.—Dr. DELAFIELD related the case as illustrating a rare lesion, causing stenosis of the lower part of the trachea and bronchi. The patient, a woman twenty-seven years of age, entered the hospital on the 22d of January, 1882. She had always been well and strong until six months previously, when she began to suffer from a cough, expectorating mucus and occasionally a little blood. She gradually became shorter of breath, until two months before her admission to the hospital the dyspnoea had become so great that she was unable to work. On admission she was still well nourished, but suffering greatly from dyspnoea, which was constant, but worse sometimes than others; there was a certain amount of cyanosis, there were sibilant and sonorous râles over both lungs, there was cough with muco-purulent expectoration, and from time to time she spit blood. The dyspnoea was evidently due to some obstruction, either in the trachea or in the large bronchi. As the most common cause of such characteristic tracheal dyspnoea was aneurism pressing upon the trachea or bronchi, he supposed that was the trouble in this case. The dyspnoea became worse and worse until her death, which took place about a month after coming under his observation. At the autopsy no new growth whatever was found surrounding or pressing upon the trachea or bronchi. The bronchial glands were slightly enlarged. The tracheal wall, at its lower part, was somewhat thickened, and its lumen was a little encroached upon, but the principal change was found in the large bronchi—the wall of each primitive bronchus was enormously thickened, and its caliber was almost obliterated. The new growth seemed to belong to the epithelial cancers, although its anatomy was not perfectly typical. The lungs presented a form of lobulated pneumonia, apparently due to an interstitial growth and filling up of the air vesicles. Such was the only lesion of importance. So far as Dr. Delafield knew, there were only three or four such cases on record.

SECONDARY HÆMORRHAGE FROM THE TONSIL.—Dr. R. F. WEIR related the case of a young man who had one of his tonsils removed by the guillotine on Wednesday last, the operator being a well-known laryngologist of this city.

Only a few mouthfuls of blood were lost until several hours subsequently, when hæmorrhage occurred to such an extent that a neighboring physician who was called in had to apply persulphate of iron and employ pressure. The amount then lost was estimated at a pint. Forty-eight hours later it recurred with a third hæmorrhage four hours after, each to nearly four ounces. The next day Dr. Weir saw the patient, and was unable to locate the injured vessel because of clots from the persulphate of iron. On cautiously removing these, the injured vessel was seen to be cut in the anterior pillar of the fauces. In a recent article Dr. Lefferts had mentioned several cases of hæmorrhage from the tonsil. The question suggested itself whether, if local applications failed, the external carotid should not be tied. No action was necessary in the present case, as no further hæmorrhage took place.

SPONTANEOUS KELOID GROWTH OF THE BREAST.—Dr. Post presented a specimen which had been removed from just above the nipple of a man about forty years of age. It presented the appearance of a ridge, such as followed the application of an escharotic, and was of a dark color. Dr. Post did not remember ever before to have seen such a growth occurring spontaneously.

In reply to a question by Dr. WEIR, he said that, in his experience, keloid growths always recurred, though he believed some cases of permanent cure were on record.

IMPROVEMENT IN THE UTTERANCE OF THE LABIALS FOLLOWING DIVISION OF THE FRÆNUM OF THE UPPER LIP.—The case occurred at Dr. Post's clinic to-day. The patient, a girl six years of age, had difficulty in uttering the labial sounds, and the mother directed his attention to unusual shortness of the frænum of the upper lip, which he divided, but with little idea of an improvement. Immediately afterward, however, she was able to pronounce the labials markedly better. It was the first case he had ever seen in which difficulty of speech seemed to have any connection with shortness of the frænum of the upper lip.

DEATH FOLLOWING THE INJECTION OF A WEAK SOLUTION OF CARBOLIC ACID INTO THE VAGINA.—Dr. OTIS had seen the case in consultation. A married woman, twenty-four years of age, was delivered without difficulty, though the forceps was used. She did well until the fifth day subsequently, when about four o'clock P. M., the nurse, in accordance with the instructions of the physician, was giving a vaginal injection of a weak solution of carbolie acid. The patient apparently fainted, and remained unconscious until about eleven o'clock P. M., when she died. Her physician came in only shortly before death. She was then dark in the face, and was throwing her arms wildly about. There was no post-mortem examination. He would ask whether it was the custom to use such injections to correct putrefactive changes already recognized, or in all cases, to prevent milk-fever, as was alleged to be the reason in this case.

In reply to Dr. Otis's question, Dr. W. T. Lusk said it was always his custom to have the vagina syringed out, the first three days after confinement, with simple water, and after that with carbolized fluid. Out of several thousand cases in hospital and private practice he had not known a single accident to result from it. Care should be taken that the fluid flowed out about as fast as it entered the vagina, lest air, sometimes found in the vagina, be forced upward by the douche into the uterine cavity.

Dr. OTIS added that the injection used in this case was of a temperature of 110° F., which might have had something to do with the bad result.

THE PRESIDENT reported further on two cases, one of removal of the kidney,

the other of double uterus. [See the proceedings of the New York Obstetrical Society, in the February and May numbers of this journal, pp. 186, 517.]

PROGNOSIS OF OVARIOTOMY.—THE PRESIDENT related the following cases as bearing upon this point. About six weeks ago two patients came to him at the same time—the first being seventy-five years of age, and having an ovarian tumor weighing about sixty pounds; the second, twenty-eight years of age, having an ovarian tumor weighing about twenty-eight pounds, she being otherwise in perfect health. The first patient was emaciated to the last degree, and required the assistance of two persons in walking across the room. Her friends were very anxious as to the possible result of an operation. He told them the chances were about ten in favor of recovery, ninety in favor of death. To the friends of the second woman he said the chances were ninety in favor of recovery, ten in favor of death. Both patients were operated on about the same time, but the first one recovered without a single bad symptom, while the second one died of acute peritonitis on the third day. No complications existed to account for the unfavorable result in the latter case. Two months ago he removed an ovarian tumor from a young girl, aged twelve years, the youngest subject he ever operated upon, while the first patient, before mentioned, was the oldest. The girl also recovered.

Dr. T. A. EMMET reported further on the case of ovariectomy related at the last meeting, because of the very extensive adhesions. It was not thought possible that the patient could live, but she recovered without a bad symptom. It was remarkable that digestion could be carried on as it was, since two thirds of the face of the stomach had to be torn from its attachments to the tumor, thus, it would seem, making peristaltic action impossible.

A STATED meeting was held May 27, 1882, Dr. T. GAILLARD THOMAS, President, in the chair.

Dr. G. E. SUSSDOFF presented the placenta of an elephant, and read the history of the labor. [See the July number of this journal, p. 22.]

CONGENITAL KERATOMATOUS DEGENERATION OF THE EPIDERMIS.—Dr. G. G. WHELOCK showed the body of an infant that had recently been born at the Nursery and Child's Hospital. Labor was protracted, there was inertia uteri, and the House Physician sent for Dr. Wheelock, saying there was an abnormal feeling about the child's head, and it was probable instruments would have to be used. When Dr. Wheelock arrived the woman had been in labor about thirty hours; the cervix was about two thirds dilated, its tissue being rather thick and œdematous. The head presented, but the position could not be determined. The surface of the head was rough and granular to the touch, and reminded one very much of the feeling of carious bone. There was no hair, and the sutures seemed to be so numerous that their individuality could not be recognized. The head was drawn down to the vulva by the forceps, and delivery was completed with the hand. It was difficult to extract the head, on account of the chafing of its rough surface against the soft parts. At birth the child appeared dead and macerated, and he regarded with surprise the House Physician's statement that an hour before it was alive, and the pulse beating 140 a minute; but in a few moments the child breathed, and continued to live for six hours. On first looking at the child the appearance of its skin suggested that of an alligator or an armadillo. The epidermis was thick and horny, and, being divided by fissures, seemed to be composed of large and small-sized plates. Between the plates on

the abdomen the true skin beneath could be seen as a raw, red surface. The ends of the fingers and toes projected through the horny skin. The condition presented corresponded very closely with that of a similar case reported by Sir J. Y. Simpson, which he called congenital or intra-uterine ichthyosis. Dr. Wheelock, however, thought it might more properly be classed as a keratoma. Simpson had collated eight cases, and a Boston physician had known of three in one family. Four were to be found in recent German literature. In the present case there was ectropion of the upper lid of the right eye; the eyes were normal. The thick skin gave the nose a flattened appearance. The external genitals (the child was a female) appeared to be perfectly formed. It was the mother's first child. At the post-mortem it was found that the lungs could be inflated only partially, and they scarcely floated in water. There were hæmorrhages in various parts of the brain, and quite a large one was found in the posterior part of the left lobe; there was great congestion in both ventricles. The kidneys were normal, except that they were very much congested. The liver, also, was very highly congested. The mother was perfectly healthy, and gave no syphilitic history. The same was true, so far as was known, of the father. It would seem that the condition of the skin determined the blood to the internal organs, all of which were found much congested, and thus caused death. In reply to a question by the President, Dr. Wheelock said that in several of the cases reported by Simpson life continued fifty or sixty hours, but in none over four days. The President had seen this case with him, and had reminded him that the condition was such as had been described by Simpson.

DERMOID CYST OF THE OVARY.—The PRESIDENT presented the specimen, which was of about the size of a walnut, and said it was one of two dermoid cysts of the ovary which he had removed within the last three months. The patient was a young married woman, who had given birth to two or three children, and had been ill since her first labor, her illness seeming to be due to the rolling about of a small tumor within the pelvis, giving rise to intense pelvic neuralgia. She could not walk with any comfort, and suffered extreme pain, especially during menstruation. She was fast becoming a confirmed opium eater. He saw that the only method of relief consisted in laparotomy, which was performed, and this mass, which he had supposed was the ovary, was removed. On cutting into it, it was found to contain fat, hair, vestiges of two teeth, and a plate of bone. The woman had been perfectly well since. Eight months ago a lady came from Los Angeles, California, and entered his private hospital. Her history was the same as that of the other patient, except that she had never borne children. She suffered extremely, particularly at menstruation, and was confined to the bed most of the time. No pathological condition could be discovered except a movable object within the pelvis, of about the size of a Mandarin orange. He tried every means of giving relief, but failed, until six weeks ago he removed this ovary. On cutting into it, it was found to be a dermoid cyst. The relief was perfect, and the patient now appeared to be perfectly well. It seemed almost impossible that her wretched state before could have been due to this small tumor, but there was no other way of accounting for it, and the fact was made perfectly evident by the operation. He had not, perhaps, conveyed a sufficiently strong impression of the wretched condition that both these patients were in. In order to relieve their suffering, both were rapidly contracting the opium habit.

IMPERFECTLY DEVELOPED CHILD.—Dr. S. O. VAN DER POEL mentioned the

case, which he had seen with another physician. The fingers grew directly from the shoulders, and there was no scapula. The legs and feet were rudimentary. The child, which was a female, was living and healthy.

The PRESIDENT remarked that he had recently seen on exhibition, at Bunnell's Museum, a man with no extremities except fingers and toes, which grew directly from the body. With these he was able to write remarkably well. The trunk was well developed.

Dr. VAN DER POEL remarked further that the cause of the malformation in this case was supposed to be a fright which the mother had during the second month of gestation, when a gentleman standing near her fell paralyzed.

XANTHIC-OXIDE CALCULUS PASSED FROM THE KIDNEY OF A FEMALE.—The specimen was presented by Dr. R. F. WEIR, who had received it from Dr. G. L. Porter, of Bridgeport, Conn. It was discharged by a young woman who had suffered from symptoms of renal colic for some years. Lately she had a severe attack lasting about ten days. When this stone came away, *per urethram*, without surgical interference, it was about an inch in length, and half an inch in breadth, and of a yellow color. On chemical examination it was found to be of the variety known as xanthic oxide. There were but seven other similar specimens on record.

TREATMENT OF GANGRENE OF THE INTESTINE.—Dr. WEIR raised this question by relating the following case: About ten days ago a woman aged thirty-five years was seen by him in consultation. Her physician stated that on the 10th of May last she was seized with colicky pains and vomiting. Passing his hand over her abdomen, he could discover no hernial tumor, but, as there was apparently intestinal obstruction, he gave opium freely, and repeatedly administered enemata. After four or five days a free movement of the bowels took place, and she felt relieved. He discovered, the day before Dr. Weir saw her, a tumor in the left groin, and the patient then told him that this had first appeared, although temporarily, the preceding August. Dr. Weir found on examination that the tumor had all the signs of a stercoraceous abscess just below the femoral opening on the left side. On incising it, fœtid pus and faecal matter were discharged. The sphacelated portion of gut, about an inch long, was laid open freely, and, as the feces had free vent, nothing further was done. The patient was entirely relieved, and the sloughing cellular tissue had since come away, leaving a fistula discharging biliary matter. Dr. Weir thought that an artificial anus in this locality would be more likely to heal than if it had been at the site of an inguinal hernia. He found that the statistics of resection of gangrenous intestine, as done by Czerny and Gussenbauer, gave only about thirty-five per cent. of recoveries. He asked whether it were better simply to slit up the strangulated portion of intestine, hoping that the artificial anus would heal of itself, or, as had more commonly been done of late, to remove the gangrenous portion, and unite the upper and lower healthy segments. He believed that the older method would be preferable in most cases, and that the resection would be suitable for gangrene, either where it was so recent as to be unguarded by adjacent adhesions, or was due to an internal strangulation.

ANATOMICAL RELATIONS OF THE PELVIC CONTENTS DURING PREGNANCY.—Dr. W. M. POLK had recently had another opportunity to study this matter on the pregnant dead subject at term, with reference to the operation of gastro-elytrotomy. In this case he further confirmed his observations made on similar cases before, his remarks concerning which had been published. It was commonly taught

that the incision through the abdominal wall should be as far outward as possible, in order to avoid the epigastric artery and the round ligament. The latter he found lifted so high up with the development of the uterus at full term as to be but little in the way, while the epigastric artery might be tied if it were cut. He considered it easier to perform the operation by making the incision farther inward than was commonly recommended, and, these facts being ascertained, it was perfectly safe to do so. The ovarian vessels were greatly enlarged, and lay so loose in their peritoneal envelope that they admitted easily of being pushed backward, even to the promontory of the sacrum, there being entirely out of the way of the operator. The next point of interest which he had studied in this case regarded the exact location of the posterior wall of the bladder when the organ was collapsed. He had found it in no case farther back than a line extending between the ilio-pectineal eminences. During the operation of gastro-elytrotomy, however, injury to this viscus was further guarded against by the introduction of the sound. The ureters, as he had demonstrated before, were found, after leaving the pelvic wall at about the bifurcation of the common iliac artery, to follow a line drawn from the sacro-iliac synchondrosis to the spine of the pubes, passing at a point about halfway between the cervix and the pelvic walls, and sufficiently below the pelvic brim to be out of danger, provided the vagina was approached in such a way as to strike the uterine cervical wall on a level with the brim of the pelvis, which could readily be done simply by tilting the uterus to one side. Although the ureters were carried upward a little in the pregnant state, yet injury to them in this operation could be avoided by observing the precautions he had mentioned. Anteriorly, the peritonæum was found not to dip down more than half an inch or an inch below the brim of the pelvis, extending down a shorter distance as the pelvic wall was approached, and, being more movable than in the non-pregnant state, it was easily lifted out of the way in approaching the cervix. His investigations in this direction inclined him to the belief that in the future many children might be brought into the world alive by the operation of gastro-elytrotomy who were now sacrificed by craniotomy.

The PRESIDENT said he was very much gratified with Dr. Polk's investigations in this direction, and he felt fully convinced that this was to be the operation in the future in cases calling for it. Unfortunately, this operation had been done twice in Europe in cases in which the result must necessarily have been bad, the patients being almost *in articulo mortis* at the time it was performed; and hence it had not attracted much attention since. In the last case in which the President had performed it, witnessed by Dr. McLane and Dr. Sabine, the conditions were most unfavorable; the woman was badly deformed, and one thigh was flexed upon the abdomen by muscular contraction; she had been in labor ten hours, and was much exhausted; she had been conveyed in a carriage during labor nine miles to a hospital not the most suitable for a patient in this condition; yet four weeks after the operation she left the hospital with her child, both perfectly well.

APPLIANCES FOR ANÆSTHETIZATION.—The PRESIDENT showed a valise for carrying ether and various things which might be of service in case of any accident—as a tongue extractor, an electro-magnetic machine, a large hypodermic syringe for the injection of brandy, bottles of nitrite of amyl, chloroform, strong aqua ammoniæ, etc. It had occurred to him to arrange such an outfit, because in several instances patients had nearly died under his hands while he was

awaiting the arrival of a battery, or some other appliance which had been sent for.

Dr. WEIR asked if experience had proved it true, as Dr. Richardson, of London, had suggested, that in these cases the galvanic battery did more harm than good by causing the heart to stop.

Dr. J. C. DALTON said that, in deaths occurring from anæsthetics in his hands, chloroform had been used, and the heart had stopped. Perhaps the heart still beat after death from ether.

The PRESIDENT thought that when ether produced fatal results death was usually caused by obstruction in the larynx by food. He had recently saved a patient by reaching down with the forceps and extracting the food which had obstructed the larynx after being vomited. About thirty years ago a patient died under ether at Bellevue Hospital, and at the post-mortem examination the larynx was found obstructed by a very large piece of beef. Death might occur from disease of the heart, as in fatty degeneration.

Dr. C. R. AGNEW always prescribed the meal of the patient before giving ether, allowing only liquids, or such food as could not obstruct the larynx in case it should enter it. Then, if possible, he preferred to operate before the patient had taken breakfast, if an early hour were essential.

The PRESIDENT remarked that in giving ether he first told the patient to take twenty deep inspirations, and by the time she had taken twenty she was accustomed to it, and took ether, when it was applied, without difficulty, and came much more quickly under its influence.

STATEN ISLAND CLINICAL SOCIETY.

A REGULAR meeting was held November 7, 1881, Dr. A. L. CARROLL, President, in the chair.

Dr. M. A. AVERY read the history of an outbreak of diphtheria in the Country Branch of the Nursery and Child's Hospital. [See the February number of the journal, p. 144.]

Dr. F. E. MARTINDALE observed that, in many cases, diphtheria seemed due to contaminated water and defective drainage. He referred to the various theories advocated by Laycock, Paget, and others, regarding a specific germ of the disease, but was at a loss to understand why, if this germ theory were true, impure water or sewer-gas should produce in one person typhoid fever and in another diphtheria.

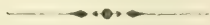
Dr. W. C. WALSER remarked that the hypotheses of Laycock and some others were disproved by the occurrence of diphtheria in patients who never touched potatoes or other alleged sources of the disease. The evidence of its origination from impure drinking-water appeared conclusive in many instances. On the nursery grounds local defects had been found in most cases, and, with the removal of these defects, the disease had ceased. He thought the whole history of the cases at the nursery a strong argument against the doctrine of contagion. The children in the institution were of a class likely to be susceptible; yet in no instance had he seen evidence of personal infection. Some fifty children, one of whom had an open wound, were exposed to contagion without any extension of the disease. Tracheotomy had commonly failed in the nursery patients, most of

whom had been strumous, or otherwise enfeebled. By a curious coincidence, however, most of his successful tracheotomies in private practice had been in tuberculous families.

Dr. A. LUKENS said that, in several of the groups of cases at the nursery, no local causes had yet been discovered.

Dr. WALSER alluded to the occasional epidemic occurrence of quinsy and other forms of sore throat preceding outbreaks of diphtheria. It was impossible to explain why epidemics should occur only at intervals; but his experience had failed to convince him of the personal contagiousness of diphtheria. === Dr. MARTINDALE had seen no clear evidence of contagion.

The PRESIDENT said that he regarded the *de novo* origin of diphtheria from common filth poisoning as fully proved, although he believed that it might subsequently become contagious. This quality of contagiousness, however, he thought had been overrated. He reviewed the experiments of Peter, Trousseau, Curtis and Satterthwaite, and others, regarding the inoculability of the disease, and alluded to numerous recent publications concerning its conveyance by milk, its supposed origin from "garget" in the cow, from a diphtheritic affection of fowls, from fungous growths on damp walls, etc. These different views showed only the unsatisfactory state of our knowledge of its etiology. Dr. Thorne-Thorne had made the first accurate observations of the apparently gradual evolution of diphtheria from epidemics of non-infectious sore throat. In one group of cases described by Dr. Avery, the dependence of the disease upon the use of contaminated water was well marked. Another point of interest was, that no new cases arose among the children who were removed from infected localities, although they had been freely exposed to personal contagion. As regarded the specific germ theory, he could not yet accept it as proved. Oertel admitted that the micro-organisms which he found in diphtheria were indistinguishable from the ordinary micrococcus and bacterium termo common to all putrefactive processes. The diphtheritic exudation was peculiarly prone to decomposition, and, in the pharynx, was constantly exposed to the implantation of germs from the respired air, which found in it all the conditions for multiplication. In one case of tracheotomy, immediate examination of the pseudo-membrane first extruded from the wound failed to reveal any microzymes; but another portion, examined the next day, after exposure to air, was swarming with them. Constitutional symptoms of blood poisoning commonly preceded the local manifestations of diphtheria; in many cases implication of the cervical lymphatics was seen before exudation occurred, and, in some malignant examples, death occurred from systemic poisoning, with little or no local deposit.



Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY

No. XXI.

By ANDREW F. CURRIER, M. D.

OBSTETRICS.

1. SIMPSON, A. R.—Hydramnios and the source of the liquor amnii. "Edinb. Med. Jour.," July, 1882.
2. GEHRUNG, E. C.—The effects of ante-displacements of the uterus on pregnancy and labor. "Am. Jour. of Obstet.," July, 1882.
3. NEVILLE, W. C.—On the causation of head and other presentations during labor. [Dublin Obstet. Soc.] "Dublin Jour. of Med. Sci.," June, 1882.
4. HERRGOTT, A.—Contribution à l'étude des grossesses multiples. Relation d'un accouchement triple observé à la Maternité de Nancy. "Ann. de Gynéc.," June, 1882.
5. TOWNSEND, F.—Case of hæmophilia complicating pregnancy. "Med. Ann.," June, 1882.
6. SEWILL, H.—Extraction of teeth during pregnancy. [Odont. Soc. of Gr. Brit.] "Brit. Med. Jour.," June 24, 1882.
7. JAMIESON, J.—On the frequency of abortion in Victoria. "Australas. Med. Gaz.," May, 1882.
8. TYSON, J. L.—Pre-natal chaton. "Phila. Med. Times," July 15, 1882.
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in the last a partial rupture had attended the first labor. The wound did not heal satisfactorily, nor had any operation upon the perinæum been performed. The discussion upon the paper does not appear. The author is in favor of deferring the operation, in the hope that nature will effect a cure.

27. Dr. Millican relates a case of *puerperal convulsions treated with artificial respiration*. The patient was a primipara, twenty-two years of age, of florid and apoplectic appearance. After twenty-four hours of labor the forceps was applied and traction was kept up for the succeeding half-hour, during the pains, which were quite frequent. No progress was observed during that period. A convulsion then occurred, and, as the author did not have any chloroform with him, he removed the forceps, placed the patient upon her back, and employed artificial respiration. The spasm was checked, and the patient soon recovered consciousness. The forceps was again required, and after the birth of the head another spasm occurred. This was overcome quite as readily as the first. The patient made a good recovery.

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9. A very important topic is brought forward by Professor Hennig in his paper on *the temperature of menstruating women*. The same subject was treated by him in 1870, in a paper read before the Obstetrical Society of Leipsic, in which he reported observations which had been made by him during menstruation upon two unmarried women of the ages of eighteen and twenty, and one married woman of twenty-eight, who had given birth to one child. From these observations it appears that the body temperature rises to 37·4°–

37·6° Cels. four or five days before the flow begins, and then drops to 36·7°–37° Cels. Upon the day when the flow appears it rises to 37·4°–37·5° Cels. Just before the period ends it drops to 36·4°–36·6° Cels. When it is quite ended it reaches 37° Cels., and then drops again to 36·2°–36·6° Cels. These observations were repeated after an interval of six months, with a similar result. He deduced from his investigations that the adult female exhales much less carbonic acid from the lungs than the male, or than the female after the menopause,

and very little less than the female before puberty. Rabuteau's investigations, published in the "Gazette Hebdomadaire" of July 1, 1870, appeared to overthrow Hennig's theory. Rabuteau found that the urea excreted during menstruation was more than twenty per cent. less than at other times, that the pulse was more infrequent, and that the temperature dropped at least 0.5° C. These changes appeared one or two days before the period, and disappeared some days after its cessation. His observations were made upon a healthy woman twenty-eight years of age. The author conjectures that the disagreement with his figures may be due to the fact that in Rabuteau's case the patient was probably allowed to remain perfectly quiet, and that the muscular activity was wanting, which would certainly do more toward producing an elevation of temperature than a state of rest. The temperature in all these cases was taken in the vagina. Hennig's subsequent observations were made upon women from whom he had removed tumors of the ovaries. The first was a woman forty-eight years of age, who discovered that she was menstruating when ready to be operated upon. Notwithstanding this fact, the operation was proceeded with, in view of the precedent set by Spencer Wells and Schröder. On the evening of the operation the axillary temperature was 38.6° C., with no quickening of the pulse. On the two following days the temperature went to 38° C. and 38.8° C., the next day it dropped to 37.9° C., and two days later it remained steady at 37.3° C. He does not consider this temperature to have been due to surgical fever, but to the presence of the menses. The patient was up on the thirteenth day after the operation. The second case was that of an unmarried woman twenty years of age. On the seventh day after ovariectomy was performed the menses, which had disappeared just previous to the operation, reappeared and continued six days. The temperature during this time was 1° – 1.15° C. above the normal. Kersch has also made investigations upon this subject, with results similar to Hennig's. The former found the variations in elevation to be between 0.7° and 1° C., while with the latter the variation was between 0.8° and 1.5° C. Where dysmenorrhœa existed the elevation was still greater.

12. Dr. Graily Hewitt gives his views as to the importance of uterine displacements. He thinks the question is by no means settled by the various tables of statistics which have been arranged. In order to obtain conclusions as to the importance of uterine displacements, two methods may be followed. One is to examine healthy subjects and ascertain the position and shape of the uterus; but it may be difficult to say absolutely that such a person, in apparent health, has no symptoms of uterine disease, hence an accurate and full knowledge of such symptoms is necessary. Another method "is to observe carefully the history, course, symptoms, and effects of particular changes in the uterus, and to procure numerical evidence as to the frequency of conjunction between the particular pathological change and the symptom and effect resulting therefrom. Further, to test the effect of treatment capable of removing the pathological condition in also putting an end to the symptom or effect supposed to be due to it." Dr. Vedeler's statistics, recently published in the "Archiv für Gynäkologie" (xix, 1882), are referred to as produced by the first method of procedure, but they are considered faulty, because the author thinks Dr. Vedeler was prejudiced against the proposition that uterine displacements constitute a question of great importance at the start. Dysmenorrhœa should not be excluded as a symptom. Dr. Vedeler says he examined four hundred and sixty-six virgins; that of these, three hundred and thirty-two had anteflexed uteri, but in only thirty-six out of this last number was there found a condition of disease. Upon this Dr. Hewitt raises the question, Why did so large a number of persons appear for examination if nothing was the matter with them? The author thinks that such symptoms as inconvenience, discomfort, or pain in walking, which he calls, collectively, dyskinesia, do not receive the attention which they deserve. Nausea and vomiting are also symptoms whose importance is apt to be overlooked. Besides the symptoms already noted, he draws attention to the fact that sterility, a tendency to abortion, various reflex nervous disturbances, and other clinical phenomena, are more or less related to displacements of the uterus—at least, he adds, the contrary has not yet been proved.

13. Küstner proposes a simple method

of replacing the retroflexed uterus in difficult cases. The bimanual method employed by Schultze requires two conditions in order to be very effective: first, a good degree of compressibility of the abdominal walls; second, a sufficiently capacious vagina to allow the hand to reach the posterior wall of the uterus. These conditions are often wanting, or are to be obtained only by complete anaesthesia, with its attendant relaxation. The method proposed by the author is intended to obviate these difficulties, and is as follows: The patient lies upon her back, and the anterior lip of the cervix is seized with a hooked forceps. The uterus is then drawn downward and forward, resulting in a partial inversion of the vagina, and in forcing the posterior vaginal wall backward and upward, so as to bring a portion of the uterus upon a level with the most elevated part of the vaginal wall. The left hand is then introduced into the vagina, and, while the ring and little fingers steady the forceps, the other fingers are pressed against the body of the uterus, and are made to carry it forward. The right hand is then forced behind the symphysis from the outside, and completes the ante flexion of the organ. The portio vaginalis may then either be pushed backward by the forceps, which is allowed to retain its grip for that purpose, or it is released, and the pushing back is effected by the fingers of the left hand before it is withdrawn. A suitable pessary is then to be introduced to prevent a return of the dislocation. If the vagina be narrow, one finger may be introduced into the rectum, and the reposition may be accomplished by pressure from this quarter. It is hardly necessary to say that it is always requisite to find out whether the uterus is free and movable before attempting to overcome a retroflexed condition. [We can not see that this procedure differs sufficiently from Schultze's to claim special attention. Replacing the uterus with the finger, per vaginam or per rectum, has been a common operation for years.]

16. Professor Schroeder writes on the relation of lateral cervical lacerations to catarrh of the cervix uteri, and the necessity for Emmet's operation. He declares that Europe has maintained some reserve in regard to its reception of this operation, and that Germany especially has observed it with indiffer-

ence. He thinks this is due rather to the fact that the good results claimed for the operation have not been obtained by European gynaecologists than to their having refrained altogether from doing it. Careful practical investigation of the subject is difficult, from the fact that in most of the severe lacerations the cervical mucous membrane is also the seat of catarrhal inflammation. As Emmet himself declares, this condition must first be cured, and Schroeder thinks such a process very slow, requiring even more time than Emmet has maintained. In case of laceration *uncomplicated with catarrh*, even where the single layer of cylindrical epithelium has been replaced by several layers of pavement epithelium, he thinks it is the rule that there are no symptoms which can be referred to the lacerations. There are exceptions to this rule where there is much ectropion of the lips, with pain in the angles when the tissues are touched; in other cases there is pelvic pain, which is increased by walking and by straining; in other cases a co-existing retroflexion brings the lips to a right angle with each other, and renders treatment difficult or impossible without reforming the cervix. He admits that he has seen one case where there were manifold nervous disturbances, which promptly disappeared after Emmet's operation was performed. [It will be observed that these are about all the conditions which Emmet claims as demanding the operation. The only question seems to be as to the number of suitable cases.] As to those cases which are complicated with cervical catarrh, Schroeder thinks that the catarrh may not only exist *without being caused* by a laceration, but may itself be a cause of laceration. To prove this latter point his reasoning is by no means clear; he assumes a condition of lacerated cervix occurring in a patient previously affected with cervical catarrh, and concludes that "the previously existing cervical catarrh is instrumental in preventing the healing of lateral lacerations occurring during labor, and this is the cause of the great frequency of the complication of cervical lacerations with cervical catarrh. He thinks that the cervical catarrh is of the greater pathological importance. Astringents and caustics are slow in their action, with the exception of the hot iron, which he has never used. His method of operation

is to excise the diseased mucous membrane completely from both lips, and then close the wound as in an ordinary Emmet operation. The sutures are to be removed in from ten days to two weeks, and the operation is called easy, safe, and likely to be successful.

18. Dr. Schmidt relates a case of *spontaneous expulsion of a uterine fibroid through the abdominal wall*. The patient was thirty-three years of age, and was first seen by the author in December, 1877. She menstruated regularly from her thirteenth year, but always suffered severe pain and menorrhagia. In May, 1873, she was normally delivered of a healthy female child. During the first four months of her pregnancy she suffered from repeated attacks of metrorrhagia. Her convalescence after her confinement was slow, the menses returned after five months and became regular, and she became subject to persistent constipation. Menstruation ceased again from November, 1877, and the abdomen began to enlarge. When first seen by the author she was somewhat anæmic, the left epigastrium was prominent, and a tumor could be felt in that region, as large as a child's head, round, and with a smooth surface, movable from side to side, and evidently not attached to the abdominal walls. Per vaginam, the uterus was found to be enlarged, pressed downward, and anteverted. High up, on the posterior vaginal wall, a tumor of an elastic nature could be felt, which did not move freely with the uterus. Per rectum, the tumor could be easily pushed forward. The urine was normal. Pregnancy, which was again present, went on normally during the first months. As the uterus enlarged, the tumor was forced upward, and at the fourth month it could not be touched per vaginam. During the sixth month of pregnancy, April 7, 1878, severe headache came on, lasting for several days; upon the 20th of April she became unconscious, and had clonic spasms of the extremities, lasting half an hour. At the end of that time the left side was found to be paralyzed, and there was also paresis of the left side of the face. This condition lasted eight days, during which time there was nothing abnormal about the pupils or the urine. The paralysis then became less pronounced, but as consciousness returned the pains in the head returned also, and were

quite severe. A few days later she was delivered of a dead six-months fœtus, and when the uterus contracted the tumor was found to have lost its attachments, and was lying free in the abdominal cavity. After a few days more the tumor was firmly fixed above the uterus and under the linea alba. Its pressure caused pain, there was a mucopurulent discharge from the uterus, and the woman continued in a very feeble condition. August 1st, nearly three months after her miscarriage, perforation took place in the neighborhood of the navel, and there was a discharge of foetid pus. This continued until August 18th, when the tumor appeared at the surface in a sloughy condition. Portions of it were removed from time to time, until all had disappeared. The opening gradually filled, and the woman became entirely well.

19. M. Polailon gives his views at length on the *treatment of cancer of the uterus*. From a clinical point of view he considers cancer of the uterus to consist of the scirrhus, the fibro-plastic, and the various canceroid forms. All should be looked upon as equally fatal in their tendencies, and as requiring radical removal, often without hope as to their non-recurrence. He distinguishes two conditions—the first where the body alone or the body and the neck are invaded, the second where the neck alone is concerned. In the first case, if the uterus were to be removed, the operation might be done either through the abdomen or through the vagina, according to the indications. The methods described are those which have been already mentioned in previous numbers of this journal, with the exception of B. Freund's modification of W. A. Freund's operation. The original description of this modification appeared in the "*Zeitschrift für Geburtshülfe und Gynäkologie*," Band vi, Heft 2, 1881, and the author had at that time practiced it only upon the cadaver. The operation is summarized as follows: 1. Dilatation of the vagina for several days before the operation. 2. Simultaneous amputation of the cervix and the vaginal culs-de-sac with the galvano-caustic loop, the wound being afterward prolonged backward into Douglas's cul-de-sac. 3. Tamponnade of the vagina to arrest hæmorrhage, and to raise the uterus. 4. Laparotomy. 5. Dissection of the vesico-uterine space. 6. Application of compress-

ors, through the vagina, upon each of the broad ligaments, to replace the ligature *en masse* of the original operation. These compressors are to be left in the abdomen three or four days. 7. Cutting away the broad ligaments. 8. Closing the abdominal wound. Schwartz's table of extirpations by the vagina, published in the "*Revue de Chirurgie*," 1882, p. 501, contains the most recent information upon that subject. He gives a table of fifty-five cases in which this operation was performed, twenty of which were fatal. Even this favorable showing, of a mortality of 36.36 per cent., is no cause, according to the author, for encouraging the operation, since the disease is almost certain to recur, and it is the part of wisdom to give up a procedure whose benefit is so problematical. There is more hope in removing cancer of the cervix. The three forms under which it commonly appears are: 1. The tuberos, with hard irregularities upon it. 2. The ulcerous. 3. The vegetating, usually of an epitheliomatous nature. Of these, the second is sometimes difficult of diagnosis, from its similarity to the conditions termed by the author "benign ulcerations." The various methods of amputation of the cervix are too well known to require recapitulation. He thinks most highly of the method with the galvano-caustic loop, and after using this he is accustomed to apply Canquoin's paste to the wounded sur-

face, thus securing free sloughing. He thinks that operations for cancer of the cervix *may* result in a permanent cure. Two causes join to make such cures rare: first, defective and incomplete operations; second, delay for too long a time before operation. Upon the side of palliative treatment we may have either the surgical or the medical. In case of a fungus-like growth, a free use of Récamier's curette may be practiced, followed by the application of the acid nitrate of mercury. The author thinks such treatment rather harsh, and, as it is apt to be attended with great loss of blood, it is often positively contra-indicated. He is much more in favor of the use of the Paquelin cautery, or the points of Canquoin's paste. As to medical treatment, this is often a last resort, where surgical aid has failed or is impossible. It is concerned with three accidents: pain, fœtor, and hæmorrhage. In case of the first, the different narcotics are called for, varied according to circumstances. The second is met, often ineffectually, by the various disinfecting solutions in the form of injections; and this treatment may be followed by a dressing of iodoform, for example. Hæmorrhage occurs oftenest in the vegetating and fungous varieties, and is sometimes very difficult to check. He prefers Canquoin's paste to all other hæmostatics, applying it over the ulcerated surface, and securing it in position with bits of charpie.

QUARTERLY REPORT ON OPHTHALMOLOGY AND OTOTOLOGY.

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5. Javal finds, from *measurements made upon the same eyes with the ophthalmometer and the optometer*, that, as a general rule, the corneal astigmatism is slightly inferior to the total astigmatism. By total astigmatism he means the astigmatism of the unaccommodated eye. In young subjects, and even in adults of forty-five or fifty years of age, an astigmatic accommodation of the lens is produced, which only completely yields to the energetic and prolonged action of mydriatics. Hence, the astigmatic eye must be regarded as deformed in its totality *in the same sense*, so that a slight statical lenticular astigmatism is added to the corneal astigmatism.

7. Emmert has been making some investigations into *the size of the visual field in relation to the accommodation*. He found that almost without exception the visual field was from 1.5° to 2.5° wider during marked accommodation than during complete relaxation of the accommodation. The extent of the visual field during relaxation of accommodation under atropine was found to be about the same as without atropine. He found also that accommodation, advancement of the retina, and limits of the visual field seemed to be very closely connected, and that they seemed to be so in proportional relations. He considers that the absolute limits of the visual field are the external expression of the limit to which the light perceptive parts of the retina may extend, and that the relative limits of the visual field are the external expression of the limit to which these parts do extend.

10. In a paper upon *the operative treatment of intraocular cysticercus*, Graefe asserts that the reason why so many operations fail is because the cysticerci either lie naked in the vitreous and present very excursive changes of location, or else, though still movable, they are surrounded by membranous envelopes. The cysticercus is either subretinal, or lies free in the vitreous. If the latter is the case, it is fixed at some particular spot to the inner tunics of the eye, or it is constantly changing its location. Hence, before operating, it is very necessary to locate the parasite exactly. This is very difficult with any of the appliances at hand, and hence Graefe has devised a localizing ophthalmoscope for the purpose. Upon a circular concave mirror of nine inches focal distance, with somewhat larger

opening (about $1\frac{1}{2}$ inch in diameter), a narrow metallic arc, a graduated quadrant, is so fixed that it is freely movable around the ophthalmoscope, the opening of the latter being regarded as the center of rotation. The radius of this arc has a length of twelve inches, so that when the observer, during the examination, maintains a distance of twelve inches from the eye, the periphery of the eyeball and the movable perimeter arc are almost concentric the one with the other. While every rotation of the perimeter can be read off on a scale fixed on the edge of the mirror, there is a point of fixation for the eye under examination movable upon the arc, in the shape of a small, white, glistening ball. When the eye of the observer and of the patient are brought into the desired position, the latter, while the relative position of the heads remains unchanged, fixes the movable object upon the arc of the perimeter, and, by rotation of the arc and adjustment of the fixation object, is finally brought into the secondary position, in which the diseased focus advances into the center of the visual field of the observer's eye. Its meridional position can then be read off from the perimeter arc directly on the border of the mirror. By this method of examination the exact location of such a focus of disease, between the posterior pole and equatorial region, may be determined; and, as we know that the equator itself lies about twelve millimetres from the corneal margin, much is thus gained.

13. In a paper upon *the sensitiveness of the eye to color under weak illumination*, Cohn draws the following conclusions: 1. There exist in different persons the widest differences as to the necessary intensity of artificial light for the perception of color. 2. Both eyes of the same individual always show differences in this connection, and often of the most pronounced degree. 3. Under a certain intensity of illumination, all colored pigments appear colorless. 4. Red, orange, and yellow are on an average recognized under a lower intensity of illumination than green, blue, and violet. 5. By some observers, and under weak artificial illumination, yellow can not be distinguished from red. 6. Pigments on a black ground are generally recognized earlier than those on a white ground. 7. Violet is the most difficult of all pigments to recognize, as well upon a white as upon

a black ground. 8. By diminution of the illumination, the pigments change their color-tone in a very different way for different persons. 9. Bright pigments are sometimes earlier recognized upon a dark ground than upon a bright ground.

16. Noyes reports two cases of *hemiachromatopsia*, which seem to point to the existence in the brain of a color-center in each hemisphere, distinct from the light center. There were no discoverable signs of brain lesion in either case. The first patient was suffering from cerebral exhaustion and over-activity. The ophthalmoscope showed an inordinately large excavation of each optic nerve. In the left eye, with perfect acuity of vision, there was a small invasion of the field of light-perception at the periphery, and in the same eye there was on that side of the field total color-hemianopsia. The other eye had a complete visual field for light-perception, with vision reduced to $\frac{1}{100}$, and absence of color-sense in all parts, saving over a zone where only blue was seen, and some vague recognition of red over a small spot. The color-lesion of the left eye might be referred to a hypothetical cortical center of the right hemisphere, or perhaps to some part of its tractus. But the color-lesion of the right eye must be located in front of the chiasm, and be assigned to its optic nerve. While in this case the hemianopsic features of the left eye suggest a lesion behind the chiasm, the quality of field in the right eye points with extreme probability to the nerve as the seat of lesion. In it may be assumed an impairment either in the color-perception or in the conductivity of the color-perception. In the second case there was a striking and symmetrical hemianopsia for color, the nasal halves of the color-fields being deficient, and to bring them within the influence of a lesion of the brain or tractus it is necessary to assume an exactly similar lesion of each cortical center or of each tractus on its outer side—a supposition highly improbable. If this be laid aside, we must invoke a double symmetrical lesion in each optic nerve or in each retina. The question raised in each case is whether the cerebral center for color is to be located coincident with or separate from the center for light, and it does not seem possible to come to any decision.

18. Haab contributes two cases to the

subject of *cortical hemiopia*. When in cases of hemiopia the autopsy reveals nothing in the brain but a lesion of the cortex, this cortical region must be regarded as the cortical optical center, and the hemiopia may be called cortical. Such rare cases are not only important for the question whether each optical center is connected with the homonymous halves of both retinae, but also for the discovery of the optical center in the brain cortex of man. The more exactly we can demonstrate that the cause of the disturbance of vision lies in the destruction of a certain cortical region of one occipital lobe, the more improbable becomes the theory of Charcot and Landolt, that the optic nerve fibers which do not cross in the chiasm do decussate farther back toward the center. That this decussation does not take place is very difficult to prove anatomically, but can easily be shown by the fact that pure cortical lesions of one occipital lobe do not cause amaurosis of the eye of the opposite side, but loss of function of the homonymous halves of the retinae of both eyes. Haab's first case was in a child of ten, with loss of the right half of each retina. The autopsy showed a tumor on the median surface of the right occipital lobe, which rose several millimetres above the level of the brain, was firmly united to the pia, measured 3 ctm. long, 3 ctm. high, and 2.5 ctm. thick. It lay directly in the sulcus hippocampi, and extended into the brain tissue for a distance of 2 ctm. It was surrounded by a softened zone of yellowish-red color, in which there were many punctate hæmorrhages. The second case was in a woman, aged sixty-one, in whom the left half of the visual field was wanting in each eye, and there was no ophthalmoscopic evidence of any disease. The condition remained unchanged for more than a year, until her death. The autopsy showed a defect in the posterior end of the right occipital lobe, and here there was a cystoid center of softening, which had destroyed a tolerably large region of the cerebral cortex on the median side of the occipital lobe, which included the entire surroundings of the sulcus hippocampi for a distance of several square centimetres. The destruction of the cerebral substance was limited chiefly to the cortex, so that between the cyst and the posterior horn there was still a tolerably thick layer of nerve substance. The sulcus hippocampi and the neigh-

boring convolutions were entirely destroyed.

21. Abadie takes up the old subject of the treatment of granular conjunctivitis by inoculation with pus. He considers that he possesses a sure means of controlling an inoculated purulent conjunctivitis by completely cauterizing the mucous membrane with a three-per-cent. solution of silver nitrate, and repeating the cauterization every twelve hours. This treatment *always leads to a complete cure, and to the return of the mucous membrane to the normal state.* From Pasteur's experiments it has been proved that when, into a proper medium for the cultivation of microbes, another microbion has been introduced, the development of one generally stops or retards the development of the other. Abadie considers the conjunctival mucous membrane as a region in which the microbion of purulent conjunctivitis, and that of granular conjunctivitis, may germinate and reproduce themselves, but one finishes by choking out the other. When the conjunctival soil is exhausted, after having been invaded and undermined in every direction by the microbion of purulent ophthalmia, it is henceforward sterile, and deprived of the elements necessary to the development of the microbion of granular conjunctivitis.

23. Reich describes a pathological process in the conjunctiva produced by pemphigus, which appears like an essential cicatricial degeneration, relatively rapid in its nature, in which the conjunctival cul-de-sac grows smaller and shallower, until it entirely disappears, and the lids become adherent to the eyeball. There is no tendency to the development of either entropion or ectropion, and not a trace of any trachomatous process. He reports several cases of this lesion occurring among soldiers who had previously had some skin lesion of a pemphigoid character, and in whom the conjunctival lesion had progressed without any marked symptom. In almost all the vision was affected, but not to a very marked degree.

24. Kubli's paper on the clinical significance of amyloid tumors of the conjunctiva is based upon an examination of thirty cases. He found that the conjunctiva was the only tissue affected in the preliminary stages of the disease. Invasion of the other portions of the lids may occur at a later stage. The disease

consists in a proliferation of the subconjunctival tissue, and is most frequent and extensive at that portion of the conjunctival fold which lines the orbital edge of the tarsus, the plica semilunaris, and the caruncle. As the disease progresses, it principally affects the scleral conjunctiva. In the region of the retro-tarsal fold the normal subconjunctival tissue bears the greatest resemblance to typical adenoid tissue. The proliferation at this region is usually diffuse. There are four phases in the development of amyloid tumors of the conjunctiva: 1. Simple adenoid proliferation in the subconjunctival tissue. 2. Hyaline degeneration. 3. Exquisite amyloid degeneration. 4. Calcification and ossification. The surface of the neoplasm is generally smooth, and covered with a healthy mucous membrane. The occasional folds are due to the conditions of the space in which the neoplasm grows. If the neoplasm is poorly supplied with vessels, it is generally of a bright yellow, glassy color, and of a coarse but elastic consistence; but, if highly vascular, its color varies from an indescribably diaphanous reddish-yellow to a reddish-brown, with a delicate elastic consistence. The anatomopathological character of this first phase consists in a proliferation of pure adenoid tissue in the submucous layer of the conjunctiva. In the subsequent phases the proliferation assumes greater dimensions, and the tumor is occasionally described as being as large as an almond. The skin of the lids is generally intact. Enlarged veins are frequently visible upon the upper lid, which is occasionally of a brownish color. It is never found connected with the neoplasm. The second phase is characterized by the smooth and glistening surface of the tumor. When slightly vascular, the tumor is generally brownish-yellow and wax-like; with numerous vessels, unmistakably diaphanous. The surface of the tumor is sometimes marked by a few coarse blood-vessels. The greater the vascularity of the tumor, the less its consistence. The tumor is never soft in this stage, but is harder than in the first stage, and more elastic than in the third stage. The anatomopathological condition in this phase is characterized by advancing proliferation of adenoid tissue and hyaline degeneration. In the third phase the color of the tumor remains about the same, except in cases of excessive

vascularization, when it becomes a dirty brownish-red. It varies in consistence from hard to gelatinous, depending on the degree of vascularization. But even in the latter condition the tissue is not elastic; if comparatively hard, it is inelastic and brittle; if soft, inelastic but impressible. This phase is occasionally characterized by spontaneous hæmorrhage. The fourth phase is characterized by calcification and ossification, in addition to pronounced amyloid degeneration. The tarsus is only secondarily, and even then but slightly, affected with amyloid degeneration, and is never the seat of independent proliferation. In almost one half of the cases examined there were no signs of trachomatous alterations. This fact, in conjunction with the characteristic picture of this disease in all its phases, proves that amyloid tumor of the conjunctiva is a disease *sui generis*, originating from hitherto unknown causes in a previously healthy conjunctiva, and having nothing in common with trachoma. The juxtaposition of the two processes is simply accidental. When the tumor is large, well developed, and in its later phases, the diagnosis is made without difficulty. In order to differentiate the two conditions, trachomatous and amyloid disease, it should be remembered that in diffuse trachoma granulations predominate, and that inflammatory symptoms would probably occur; while the absence of pronounced granulations, as well as of inflammatory symptoms, would suggest the presence of incipient amyloid tumor. Kubli thinks that even when the tumor has attained an extensive growth it is accessible to therapeutical or operative measures. He suggests the trial of parenchymatous injections of tincture of iodine or Fowler's solution. He advises radical extirpation in all those cases in which it can be accomplished without special difficulties—i. e., when the tumors are small, more or less circumscribed, and in which the operation can be performed without too extensive a loss of substance. Partial extirpation is indicated in all other cases in the hope of exciting spontaneous retrogressive metamorphosis. The chief point in the after-treatment is to cleanse the conjunctival sac frequently with disinfectants, especially a two-per-cent. solution of boracic acid.

25. Von Milligan reports a case of *conjunctival tuberculosis* occurring in a Turkish girl, aged eleven, of healthy pa-

rentage, involving only the right eye. He at first made a diagnosis of chalazion of the lower lid, with fistulous opening and granuloma of the conjunctiva after spontaneous rupture. Eleven months later, on the site of the former chalazion, upon the surface of the tarsal conjunctiva, was a prominent, deep-red mass, like granulations from a wound, which bled easily. These vegetations extended from the external canthus to the middle of the lower lid, and from ciliary margin over the retro-tarsal fold to the ocular conjunctiva. Three similar nodules were found in the tarsal conjunctiva of the upper lid. The pre-auricular gland was enlarged and sensitive. The submaxillary glands were also enlarged. By the microscope the diagnosis of conjunctivitis tuberculosa was made, there being found large numbers of giant cells, with cellular detritus and tuberculous masses. Milligan shaved off all the vegetations until healthy tissue was reached, and then cauterized the raw surface with pure nitrate of silver in substance. This was repeated every second day for three weeks, and in about a month the patient was discharged cured. Six months later the disease had not returned.

26. Snell describes a rare case of *dislocation of the lachrymal gland*. The patient was a man, who presented himself with a swelling in the upper lid at its external part, and coming from under the frontal bone, of about the size of an almond. It could be pressed between the fingers, but readily slipped back into the orbit; its surface was smooth. Pressure caused it immediately to recede into the orbit, beneath the frontal bone, but, after depressing the head, it again became visible in the lid. It had come on first in the night without any apparent cause except violent coughing. The same side of the head was marked by a large venous subcutaneous nævus, which extended to the eyebrow and apparently passed into the orbit. It was replaced by Snell, and remained in place when the patient was seen six weeks later.

27. Chibret recommends the following *operation for stricture of the nasal duct*: He first incises the inferior lachrymal punctum with a Weber's knife so modified that the narrow blade is probe-pointed for a distance of two centimetres, and has a heel as long as the blade; the blade is one and

a half millimetre wide. Then a conical silver style, measuring two millimetres in diameter at its larger end, is introduced into the incised lachrymal canal and pushed down into the sac with a rotatory motion, which facilitates the passage between lachrymal sac and nasal duct. Then the surgeon assuring himself that the periosteal lining is still intact, and the style is passed to the bottom of the duct and left there for a few seconds. Then the modified Weber's knife is introduced into the nasal duct and all the soft parts are freely divided in every direction by turning the handle of the knife. If the patient can remain some time under treatment, Chibret advises two or three probings during the first week, two in the second week, one or two in the third, one in the fourth and fifth; after this every fifteen days, or once a month. He uses a No. 5 or 6 Bowman probe, leaving them in each time from half an hour to an hour and a half. At the end of the first week he follows the probing by injecting a saturated solution of alum through de Wecker's hollow sound, No. 4.

31. In his paper upon *the origin of posterior choroidal staphyloma*, Paulsen has endeavored to prove that the choroidal staphyloma results from detachment of the choroid from the optic papilla in consequence of the resistance met with by the eyeball in its movements on the side of the nerve-sheath. This, with few exceptions, is always acquired, and is found in hypermetropic, normal, and myopic eyes. It is rarest in hypermetropic eyes, because the conditions for the formation of the staphyloma are here most unfavorable; and it is most frequent in myopic eyes for the reverse reasons. The scleral staphyloma is congenital and inherited, and only occurs exceptionally in eyes not disposed thereto. The eye with a scleral staphyloma is already disposed to progressive myopia—that is, to the further development of the staphyloma, because the stretching of the sheath in these long eyes occurs more easily than in normal eyes, from the same injury or exciting cause. Here also the sclera is stretched and bulged out by the resistance opposed to the movements of the eye by the dural sheath. In the normal eye this can only rarely occur, and then only by the action of lasting injuries.

33. Ayres reports three interesting

cases of *sympathetic ophthalmia*, which have a distinct bearing on the subject of the transmission of the sympathetic influence, and show that the incarceration of the optic and ciliary nerves will cause sympathetic irritation and plastic iritis, and that neuritis is associated with a sympathetic iritis serosa. The first case was an irritable stump enucleated after panophthalmitis. Sympathetic ophthalmia began one year later, and was cured by excision of the optic nerve. The second and third cases are interesting as showing that fully developed sympathetic ophthalmia can be cured by long-continued poulticing and other means.

34. Krause contributes some points to the pathology of *sympathetic eye disease*. He examined an eye which had been enucleated for sympathetic irido-cyclitis of the fellow-eye. The whole uveal tract showed marked signs of inflammation. The choroid was everywhere very thick—in many places thicker than the sclera. The thickest part, two millimetres, was near the papilla. The thickened iris was applied to the cornea, and the ciliary body drawn in almost to the axis of the eye. The choroid was adherent in spots to the sclera. The retina was folded, the folds being produced by a fluid exudation which separated the retina and choroid at different places. Microscopical examination showed that the optic nerve was normal, except a slight round-cell infiltration of its interstitial connective tissue in the region of the lamina cribrosa. The sheaths were also normal. The changes in the ciliary nerves were due to an interstitial neuritis, characterized by accumulations of small round cells within the tissues. The changes were of slight degree, for nowhere were the nerves destroyed, since they could easily be followed in their course. Krause therefore concludes that the power of conduction remained in the ciliary nerves, and that the sympathetic process was carried by their agency to the other eye. This seems to be the more probable, since the optic nerve and its sheaths were found normal.

36. As a result of his investigations into the canal of *Petit and the zonula of Zinn*, Aeby concludes that the hyaloid membrane surrounds the vitreous, not only in its retinal, but also in its lenticular division, which is a proof that it belongs to the vitreous and not to the retina. The zonula may be

demonstrated in three ways: First, in connection with the vitreous and lens by means of slight putrefactive maceration; secondly, in connection with the vitreous alone by a more advanced putrefactive maceration; and, thirdly, completely isolated by acid maceration. If the zonula be carefully incised with scissors or scalpel, a clear, watery fluid immediately exudes, and, after it has entirely flowed away, the canal of Petit appears as a three-sided prismatic space. The division or splitting of the zonula may be easily extended for almost any distance, and its undulatory course is very clearly seen in the increasing and diminishing caliber of the inclosed canal. If the vitreous humor is pressed upon, the canal of Petit narrows in a sagittal direction, and this points to some connection between the width of the canal and the intraocular pressure. The canal of Petit is nothing but the post-lenticular space between lens and vitreous, closed laterally by the zonula. Its width always increases with the lessening or loosening of the connection between hyaloid and vitreous, and finally this annular canal is changed into a continuous fissure parallel with the posterior surface of the lens.

37. Priestley Smith reports a case of *spontaneous dislocation of the lens into the anterior chamber, with secondary glaucoma*, followed by some remarks upon the pathogenesis of glaucoma. The condition of the optic nerve found by Smith suggested that there was already 'some excess of tension in the case before the dislocation of the lens occurred, for the excavation was greater than could probably be produced in eight days, even by the very high pressure which was present here. It seemed not unlikely that an excess of pressure in the vitreous chamber was the immediate cause of the dislocation. It is clear that an acute and violent glaucomatous attack was directly connected with the displacement of the lens, which was explained by the absolute barrier presented by the position of the iris to the stream which passes from the posterior chamber through the pupil to the anterior chamber, and thence filters outward through the ligamentum pectinatum. The total evacuation and abolition of the anterior chamber in the case separated it from the more common forms of glaucoma. The septum formed by the lens and its suspensory ligament was destroyed, and the iris

was not subjected at its periphery to any greater pressure than elsewhere, and hence it was able to drive the aqueous fluid out of the chamber. It is difficult to conceive how the lens, while subjected to such pressure from behind, could by any possibility make its way backward through the pupil; and yet in one case reported by Smith the pressure did effect its own cure by forcing the iris forward until the border of the pupil was dragged round the margin of the lens. This spontaneous restitution would be less likely to occur in advanced life, when the lens is of large diameter in relation to the pupil, than at any earlier period, when the lens is smaller and the pupil more easily dilatable.

45. Berger, in investigating the *finer microscopic structure of the optic nerve*, has found that there are numerous meridional bundles of fibers which at the periphery pass into circular fibers. The fibers of the dural and arachnoidal sheaths of the optic nerve pass into the external layers of the sclera, while the fibers of the pial sheath pass partially into the inner layers of the sclera. The longitudinal fibers of the pial sheath nearest the center bend at their anterior end almost at a right angle, and pass into the meridional fibers of the choroid. Some fibers from the lamina fusca pass into the longitudinal fibers of the pial sheath. The anterior layers of the framework of the lamina cribrosa arise from the choroid. Near the periphery of the optic nerve the framework fibers of the choroidal part in adults always contain isolated pigment cells. The fact that connective-tissue elements and blood-vessels pass from choroid to optic nerve seems of importance with reference to the fact that in hyperæmia and inflammation of the choroid the optic nerve is so often involved.

46. Fuchs, in his paper upon the *congenital anomalies of the optic nerve*, refers to the frequent occurrence of the downward crescent, especially the narrow, slightly marked forms, which are so easily overlooked. This crescent is congenital, and analogous to the coloboma of inner tunics of the eye. It must be completely differentiated from the ordinary crescentic atrophy of the choroid, on the temporal side of the disc. This downward crescent is almost always connected with an error of refraction, especially with myopia,

and also with defective vision; and is hence an important symptom in congenital amblyopia.

47. Chisolm reports a case of double *optic neuritis* in a man, aged twenty-eight, accompanied by a *central nervous lesion* of obscure character, ending in death. The first appreciable symptom was pain in the movements of the left eyeball, with slight clouding of vision, which progressed with such rapidity as to destroy sight in the eye within twenty-four hours; then similar pains making their appearance in the movements of the right eye, with subsequent blindness in it also. By the morning of the third day not even the appreciation of light was left to the patient, who otherwise felt perfectly well. A new train of symptoms began with interference with locomotion, with loss of sensation in the feet. A paraplegia developed, advancing steadily and rapidly up the spinal cord, affecting progressively feet, legs, thighs, pelvis, abdomen, and thorax. This destroyed life in twelve days from the commencement of the eye symptoms, the brain remaining clear to within a few hours of death. No autopsy was allowed.

53. In speaking of *burns of the eyeball by chemical agents*, Weinberg takes up first the subject of burns from acids. He finds the accidents caused by mineral acids generally more severe than those caused by metallic oxides, because being liquids they spread much more easily and cause more extensive accidents. The accidents caused by the contact of the conjunctiva with acids vary according to the degree of affinity which the latter have for water and according to the extent of the surface of contact. When the agent is alkaline, as, for instance, quicklime, the results are much more grave. Immediately after its introduction into the eye there is seen upon the conjunctiva a thick, white, adherent membrane, surrounded by a chemosis. Burns of the cornea are graver than those of the conjunctiva. When only the superficial layers are injured, the scar is white and transparent, but, when the whole cornea is involved, it is hard, white, and opaque. Burns of the sclera are usually superficial, it being protected by the conjunctiva. As regards treatment, Weinberg advises first a careful removal from the eye of all trace of the chemical agent which may have entered it, and then dilution or neutralization of the agent,

cold water syringing being the best means for this purpose, except in cases of burns by quicklime, where it should never be employed.

55. Adamük reports an interesting case of *epiocular sarcoma* in a woman. The tumor and eyeball were removed together, and it was then found that the posterior half of the globe was not involved in the growth. A microscopical examination showed that the case was one of circumcorneal melano-sarcoma in the highest stage of its development. These tumors have very little tendency to penetrate the eyeball. The inner layers of the sclera and cornea were not affected, so that the tumor could be detached without injuring the eyeball. The tendency to penetrate the globe is apparently less the more pigmented the growth. It is, however, difficult to say whether, by detaching the tumor from the eyeball, a reappearance of the disease could be avoided. In another case an episcleral melanoma was removed without disturbing the eye, and Adamük is convinced that the earlier this operation is undertaken the easier it will be. The etiology of these tumors can be explained only on Cohnheim's theory—that they develop from the remains of the primary ocular vesicle in cases of coloboma oculi.

57. Owen reports briefly a remarkable series of cases of *hereditary idiopathic nystagmus*, the fault being transmitted through four generations. The first case seen also exhibited reversional heredity in an unusual form, the male children of the females being the subjects of the affection, the females themselves being unaffected. The only condition common to all those affected is hypermetropia, varying in degree, which, however, exists in some of the females also. The children of the last generation are certainly lighter in complexion and in the color of their hair than their immediate ancestors, and there is a light tint of the fundus oculi, showing diminished choroidal pigment. They are also more amblyopic than the earlier generations. None of the family have ever shown any choreic movements. There is no history of gout, rheumatism, or asthma. In the two later generations of this family the nystagmus began at birth; in each case the nystagmus has steadily continued unaltered, or at least not perceptibly altered, so far as unskilled testimony can show, throughout the whole of life.

58. Nieden reports a fourth case of *pulsating exophthalmus*, in a woman in whom all the symptoms began four and a half months after a severe fall. The fall probably produced an internal injury at the base of the skull, and, as she lost all sense of smell immediately after the injury, it is probable that a fracture of the anterior part of the base of the skull was also present. As some of the symptoms pointed to a rupture of the left internal carotid artery in the cavernous sinus, he concluded that there was a comminution of the lamina cribrosa of the ethmoid. In the same way a splinter of bone must have done direct injury to the walls of the left internal carotid. He thought that the rupture was not an extensive one, since the subjective symptoms of noises on the left side were present without any striking objective symptoms as the result of this communication of the arterial and venous systems of the ear. Several months elapsed after the injury, and it required further disturbance of pressure (she was delivered of a child in the mean time), to cause a more extensive rupture of the arterial walls, to produce the later symptoms. The rapid protrusion of both eyes, the venous stasis of the conjunctival blood-vessels and those of the lids, and the implication of the right eye twenty-four hours after the left, induced Nieden to believe that a later rupture occurred, which so changed the circulation in the circular sinus that it had a great influence on the circulation of the right orbit. It does not seem probable that the fracture of the ethmoid bone could have ruptured both internal carotid arteries. The changes produced by pressure on the left carotid and the fact that pressure on the right had no effect indicate that the condition of the right eye was only a secondary complication.

59. Oliver draws the following conclusions as to the comparative action of the sulphate of daturia and the sulphate of hyoscyamia upon the iris and ciliary muscle: 1. A single instillation of either the one fortieth or the one twentieth of a grain each of both the sulphates is sufficient to paralyze accommodation in a normal emmetropic or a healthy ametropic eye. 2. No dependence can be placed upon the action of a single instillation of either of the solutions of both drugs upon the ciliary muscle of an unhealthy ametropic eye.

3. A single instillation of either of the solutions of both drugs is of no value in the estimation of the degree of refraction in marked cases of asthenopic ametropia, but may be of great service in either verifying previous results or primarily determining errors in healthy ametropic eyes. 4. Maximum dilatation of the pupil is produced by a single instillation of either of the solutions of both drugs. 5. The total paralysis of the ciliary muscle occasioned by a single instillation of either of the solutions of the sulphate of daturia is attained and lost sooner than the total paralysis occasioned by a single instillation of equivalent amounts of sulphate of hyoscyamia. 6. The mydriasis of a single instillation of either solution of the sulphate of daturia is not so quickly attained, and is of shorter duration than that of a single instillation of equivalent amounts of sulphate of hyoscyamia. 7. The full action of a single instillation of either solution of the sulphate of daturia upon the iris and ciliary muscle remains intact for a shorter time than that of a single instillation of equivalent amounts of sulphate of hyoscyamia, the time of the latter being almost double that of the former. 8. With the use of the amounts given of both drugs, primary calculation of refractive error may be accurately obtained without second instillation, after the lapse of twenty-four hours. 9. The long-continued dilatation of the pupil and the slow return of ciliary power occasioned by the amounts given of both drugs render them absolutely useless where we desire accurate ophthalmoscopic examination in cases dependent upon their use. 10. The astringent and irritant action of the two drugs upon the conjunctiva may be avoided by the use of a neutral salt. 11. The comparatively rare and slight transient constitutional effect caused by a single instillation of the amounts given of sulphate of daturia may be considered as perfectly harmless, and of no consequence. 12. The grave constitutional disturbance sometimes seen during the use of a single instillation of the amounts given of sulphate of hyoscyamia should render us cautious in its employment.

61. From some observations made with *boracic acid in external inflammations of the eye*, Stocquart concludes that, in non-suppurative inflammatory affections of the external parts of the eye, boracic acid is especially efficacious

when the phenomena of vascular engorgement have not lasted too long and do not exist in the dense membranes. He thinks the acid hinders purulent secretion from the mucous membranes, and thus diminishes the gravity of the inflammation very much.

62. Deutschmann recommends the use of *iodoform in ophthalmic practice*, both in the form of powder and ointment, if employed in small quantities, but says that large amounts cause hyperæmia and a kind of conjunctivitis which resembles that caused by the protracted use of atropine; slight granu-

lations are produced as well as slight secretion. If any preparation of mercury has been or is being used locally, precaution must be taken to cleanse the conjunctival cul-de-sac thoroughly before using the iodoform. Deutschmann employs finely powdered iodoform in wounds of the eyeball as a prophylactic antiseptic, and it has the advantage over solutions of carbolic acid in that it causes no pain. He also employs it in all cases of purulent keratitis and serpiginous ulcerations, using it as a fine powder in connection with borated bandages, and with excellent results.

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10. MOOS, S.—Ueber pyämische Zufälle im Verlauf und nach der Heilung einer acuten eiterigen Paukenhöhlenentzündung. "Ztschr. f. Ohrenheilk.," xi, 3.
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16. BRANDEIS, R. C.—Two cases of tinnitus aurium caused by disturbances in the current of cervical blood-vessels. "Arch. of Otol.," June, 1882.
17. MOOS, S.—Nekrotische Ausstossung eines knöchernen Halbzirkelganges mit vorausgehenden achttägigem Schwindel und Erbrechen. "Ztschr. f. Ohrenheilk.," xi, 3.
18. MOOS, S.—Oedem in der Schläfen- und Jochbeingegegend als ein Symptom von Phlebitis und Thrombose des Sinus lateralis. *Ibid.*

19. BRUNNER, G.—Ein Fall vom completer einseitiger Taubheit nach Mumps. *Ibid.*
20. DELAVAN, D. B.—Otalgia from reflex dental irritation. "Am. Jour. of Otol.," July, 1882.
21. BURNETT, C. H.—Aural vertigo. "Phila. Med. Times," June 3, 1882.
22. RUPP, A.—Employment of calcium sulphide in the treatment of inflammatory and suppurative aural disease. "Am. Jour. of Otol.," July, 1882.

5. Todd reports a rare case of *aneurismal tumor of the deeper part of the external auditory canal* in a man aged forty-five. The patient had had acute suppurative otitis in both ears twenty-two years before, with impaired hearing ever since. Near the bottom of the left auditory canal, on its inferior wall, and hiding the membrana tympani, was a small swelling that looked like a small furuncle. Todd lanced this, and a profuse flow of semi-arterial blood promptly followed, which necessitated solid tamponing. The next day cotton and clots were cautiously removed, and a collapse was seen in place of the swelling. Bleeding recommenced, and the tampons were replaced, and were not removed for several days. The swelling persisted unchanged, filling with blood upon removal of the tampons. Pressing upon it with a probe, pulsation could be seen. The "throbbing noise" was found to be synchronous with the pulse, and could be checked by pressure upon the common carotid, or upon firm pressure deep behind the jaw. The collapse of the sac after incision suggested the propriety of resorting to local compression as a means of relief. A small pledget of cotton, with a thread attached, was pushed down to and as far as possible over the swelling. Two years later the pulsating noise was less troublesome. The sac was whitish and thickened, somewhat flattened, and as large as a split pea. He had persisted in the use of the compress. H. D.=O.

8. Ladreit de Lacharrière recommends some new sounds for catheterism of the *Eustachian tube*, which are of uniform caliber and nine in number. Eight of these are for catheterism of the tube, while the ninth, somewhat larger, serves as a means of application of caustic fluids to the orifice of the tube. The eight sounds are associated in pairs of the same caliber, but each one of these four varieties presents a different curvature. He thinks it better to introduce the largest sound in order to inflate the tympanic cavity with the largest column of air possible; but each individual nasal conformation must be

well noted. If catheterism is not possible, or if it is painful with Nos. 7 and 8, sounds of a smaller caliber and different curvature must be tried. The eight sounds vary in diameter from 1.90 millimetres to 2.70 millimetres, and the commencement of the curvatures varies between 2 centimetres and 36 millimetres from the extremity, and deviates from the rectilinear between 12 and 34 millimetres. Nos. 3 and 4 are for young patients with narrow nostrils, while Nos. 5, 6, and 7 are for adults. Sound No. 8 is for the purpose of catheterizing the tube by the opposite nostril, in cases where deviation or deformity of the canal of the same side makes catheterism by this side very painful or impossible.

9. Spencer gives the name *mechanical* to the dry treatment in suppuration of the middle ear, as opposed to *medicinal*. His own experience has led him to the conclusion that in chronic troubles rarely, in acute ones never, do we need to employ the bath for the removal of products of inflammation. In the one case it is inefficient, in the other wholly impracticable. The manifold and complicated recesses of the tympanic cavity, the drum-head being swept away, are inaccessible to any force of the syringe that could be with safety employed; and most certainly an opposing drum-head places a further and insuperable obstacle in the way in proportion as its integrity is unimpaired. There may be conditions, however, in which we shall be compelled to use water, to detach hidden and intractable masses covering seats of disease. The mechanical treatment of ear suppurations is especially applicable to the acute forms, but it is also of great value in certain chronic conditions and other forms of inflammations. Spencer employs the air-douche and a cotton compress placed at the fundus of the external auditory canal. The office of greatest importance which is performed by inflation of the ear is the compression which is made upon the tympanic walls through the direct impulse of air, and the continued pressure which the air is enabled

to exercise, the channel for its normal introduction being re-established. Following the same reasoning, he has applied compression and support to the external surface of the membrana tympani and to the walls of the external auditory canal. The compression which is made by the cotton is uniform and constant, and upon the walls where the underlying tissues are bone it can be made most efficient. The absorbent cotton at the same time does not offer an obstruction to the exit of matter from the tympanic cavity, but rather encourages it. The compress should be removed as frequently as it becomes saturated, and a fresh one introduced. A plug of antiseptic cotton may be placed over the compress. In chronic inflammations there exists no longer the indication for that use of the cotton which obtains in acute inflammations. The office which it performs may be said to be largely a protective one to the tympanum against evil influences from without. In this class of cases it is not a substitute for the dry treatment, but supplements it rather. When the cotton is used here, its surface toward the drum-head should be moistened; and if subsequently found to be adherent, it should not be disturbed, its detachment being effected in time by natural processes.

10. Moos's paper on *pyæmic complications in the course of acute purulent otitis media* is interesting. He thinks that such complications point to a participation of the temporal bone, especially to a gradual caries, which favors the extension of the morbid process to a brain sinus. If it is not a question of acute caries or of the presence and deleterious effect of microbes in the inflamed parts, then we may look for the following possible complications: 1. Intermittent fever—against this view is the appearance of the chills during the use of quinine, and also the rise in bodily temperature. 2. Phlebitis and thrombosis of a vein or cerebral sinus in the vicinity of the drum. This means some abnormality of structure in the organ, such as: *a*, defective development of the bony floor of the tympanic cavity, so as to admit of direct contact between the inflamed mucous membrane and the vena jugularis; *b*, the same condition in the roof of the drum, favoring extension of the inflammation to the superior petrosal sinus; *c*, extension of the same through numerous venous

channels in the mastoid process to the lateral sinus or to the sigmoid sinus.

11. Graf offers the following conclusions as to the value of *artificial drum-membranes* in general and cotton pellets in particular. He regards the artificial drum-head as useful only in cases of large perforations, with a tough mucous membrane of the drum-cavity, where there is but little or no secretion and great diminution of hearing. He thinks it sometimes restores bone conduction. A layer of boracic-acid powder increased the hearing power by acting as an artificial drum-head. As a general thing he gives the cotton pellet the preference, and its therapeutic effect is also in its favor.

12. The connection between *hæmorrhagic pachymeningitis and the formation of new membranes in the drum-cavity* is illustrated by the following case: The patient did not exhibit any loss of hearing, but complained of noises in the ears and similar sensations in his head. He had had an extensive hæmorrhage into the optic nerve sheaths, the incarceration of the optic nerves producing choked discs. At the autopsy, in both temporal bones the adventitia of the branches of the internal auditory artery had a glassy appearance, and showed ring-like swellings. There was fresh extravasated blood between the nerves at the base of the left modiolus. The structure of the newly formed membranes in the tympanic cavity was made up of light, finely fibrous, wavy connective tissue, with a few oval or spindle-shaped nuclei. This tissue surrounded large and small meshes of blood-vessels. The vessels were generally small, of uniform size, and had the anatomical structure of capillaries. There were no traces of arterioles. Along the course of the vessels, and in the interspaces between them, were numerous small extravasations of blood. In hæmorrhagic pachymeningitis the morbid process follows the course of the meningeal artery; and, since the tympanic cavity derives at least a part of its nourishment from this artery, we may consider the membranes as a result of the disease, which passes by preference along certain blood-channels. The diagnosis in the case of the process in the brain was uncertain in the beginning, lying between pachymeningitis hæmorrhagica and intra-cranial tumor. As the diagnosis of the tympanic disease just described can be made

with the otoscope on account of the peculiar mixed color of the drum-head, it may be of great service in settling the diagnosis of pachymeningitis.

18. Moos refers to the importance of *œdema in the region of the temporal and zygomatic bones as a symptom of phlebitis and thrombosis of the lateral sinus*. He thinks the symptom is probably rare, because the anatomical conditions of its genesis are of the nature of bone development, and therefore exceptional. Where this symptom occurs we must consider in our diagnosis the existence of abscess of the brain, cerebral œdema, meningitis, and phlebitis and thrombosis of the lateral sinus. If brain abscess be present, an acute stage, with convulsions or rapid paralysis, must be expected. If the lesion is cerebral œdema, we should expect a cephalic pulse. The most common cause would be, however, meningitis, complicated by phlebitis and thrombosis of the lateral sinus.

19. Brunner gives some general remarks upon *one-sided total deafness after mumps*: 1. The nervous deafness after mumps may be unilateral or bilateral, the former being more frequent. 2. It is complete, and, according to past experience, is incurable. 3. It develops rapidly in all cases, with vertigo and subjective noises, the latter symptoms lasting a long time. 4. There is little or no fever. 5. Pain is never, or very seldom, present. 6. Consciousness is not lost, nor is there any other symptom present except the excessive vertigo. 7. It may occur in both children and adults. The disease has many similarities to Voltolini's and Ménière's diseases, but it is more like the former than the latter. The vertigo, staggering gait, and subjective noises are common to all three. It differs from Voltolini's disease in the absence of fever, the slight disturbance to the general condition of the patient, and the absence of psychical excitation, and also in that the deafness after mumps is generally unilateral, while in Voltolini's disease it is generally bilateral. The difference is more quantitative than qualitative.

21. Burnett's paper on *aural vertigo* is very complete. He describes it as a vertiginous condition due to an irritation of the auditory apparatus. This irritation, usually in the form of pressure, may be situated either in the external, the middle, or the internal ear, or in or upon the auditory nerve within

the cranial cavity. Though originating in the different parts of the organ of hearing, this irritation, in order to produce vertigo, must be exerted ultimately in the form of pressure upon the terminal filaments of the auditory nerve in the semicircular canals, and thence conveyed to the cerebellum. Burnett confines himself to a consideration of vertigo arising from irritation in the various parts of the auditory apparatus, and communicated to the semicircular canals, and thence to the cerebellum. The auditory nerve consists of two kinds of fibers—viz., the motor fibers, distributed to the ampullæ of the semicircular canals and connected with the bulb and the inferior peduncles of the brain; and the sensory fibers, distributed to the utriculus, sacculus, and cochlea. It is to the motor set of fibers in the acoustic nerve that Burnett directs our attention. Anatomically, the auditory and pneumogastric nerves are contiguous at their origin. The vertiginous sensation may be evoked by an overflow of nerve-impulse from some one center of the encephalon to the so-called vertiginous center, and, from what is known of the physiology of the semicircular canals, it may be assumed that the central termination of the ampullar nerves is in very close connection with a spot in the brain, irritation of which will produce the sensation of giddiness. This is in the cerebellum, and owes its great influence most probably to its connection with the spinal cord. If such an "overflow" of irritation can take place between the central termination of the ampullar nerves and the vertiginous center in the cerebellum, a similar "overflow" may take place between this ampullar center and the pneumogastric center, simply because the two latter are more contiguous to each other than the ampullar center and the vertiginous center in the cerebellum. In this contiguity an easy explanation is found of the nausea, vomiting, pallor, and faintness, the slow breathing and weak pulse, which occur in aural vertigo. Tinnitus aurium is best understood by being regarded as a truly objective sound; for it will be found upon reflection to be due to the perception by the auditory nerve of the circulation of the blood of the organ of hearing, and not in the nerve itself. In fact, in tinnitus we have the murmur produced by minute vibrations in the walls of arterioles and veinlets in

or near the ear, through which blood is flowing and setting up vibrations, just as we hear an aneurismal murmur, which is evoked in a similar way. When the irritation is in the *external* ear, neither tinnitus nor deafness may be excessive; but both are permanent from the outset to the cure, and the tinnitus is acoustically of the uninterrupted quality. When the irritation lies in the *middle* ear, the symptoms are likely to be paroxysmal, as though the physical conditions upon which the altered and morbid pressure depends varied with the state of the atmosphere or with the health of the patient. In cases dependent upon irritation in the internal ear or labyrinth, all the symptoms are usually more pronounced, though the attacks of tinnitus and dizziness are paroxysmal, while the deafness is most profound and permanent. Vertigo dependent upon disease like a tumor in or upon the auditory nerve, and which may be denominated a central form of auditory vertigo, is usually not paroxysmal, the patient experiencing a constant and increasing tendency to alterations in gait, with a disposition to fall toward the affected side in walking. It may be regarded as a settled fact that external ear vertigo is produced in two ways—viz., either mechanically by direct pressure on the drum-head and chain of ossicles, or reflexively through the nervous system. The process of conduction of irritation is but an exaggeration of the mode of the mechanism of hearing. It must also be remembered that morbid pressure may be exerted from the middle ear on the deeper parts of the auditory apparatus concerned in the production of ear vertigo by closure of the Eustachian tube in throat and nose disease. In fact, any undue loading of one or all of the ossicles, or any abnormal pressure upon them, or even excessive swelling of the mucous membrane covering them, by forcing them inward, or by carrying only the stirrup abnormally inward, would tend to compress the labyrinth fluid unduly, especially if at the same time the swelling of the mucous membrane extended to the round window and prevented the compensating yielding of its membrane to the inward pressure of the stirrup. In this way the vertigo so often present in acute otitis may be explained. In middle-ear vertigo it may also be assumed that the pressure in the labyrinth may at times

be brought about by altered circulation due to reflex influences, as was shown in external-ear vertigo. The path of the irritation in this case, however, lies probably between the vertebral artery, the vertebral plexus, and the inferior cervical ganglion on one side, and the otic ganglion on the other. Internal-ear vertigo may be produced by disease in the auditory nerve, or in any part of the labyrinth except the cochlea. Central-ear vertigo, which is due to a tumor of the auditory nerve, is never sudden, but slow in its onset. The deafness and tinnitus, as well as the vertigo, are comparatively slight at first, but then steadily increase, and are always permanent from the time they show themselves until the end. The gait is permanently altered, though it may be only slightly changed at first, and the tendency is to fall toward the affected side. Not so, however, in true internal-ear vertigo, in which the initial lesion is in the labyrinth, in or very near the semicircular canals. In this the deafness is sudden, profound, and permanent, but the giddiness and falling are paroxysmal. As regards the treatment of aural vertigo, if the irritative pressure is due to a foreign substance of any kind in the auditory canal, it is to be relieved by the removal of the foreign substance. If the irritation is due to pressure from matter accumulated and retained in the drum-cavity, it must be allayed by removal of the retained mass. This can be accomplished by paracentesis of the drum-head, by inflation of the tympanic cavity with Politzer's air-bag, or by catheterization. If the pressure is due to a vacuum in the drum-cavity, and a consequent indrawing of the drum-head and the ossicles from closure of the Eustachian tube at its faucial end, the introduction of air by one or both of the above-mentioned means will usually restore the drum-head to its proper place and unlock the pressed-in chain of bone, thus relieving the compression in the labyrinth and semicircular canals. In cases of tonic spasm of the tensor tympani muscle, the attacks may be relieved by inflation of the drum-cavity, which forces the drum-membrane and the malleus outward, and antagonizes the indrawing effects of the spasm in the tensor muscle. The disease in this form is also to be combated by antispasmodics, preferably bromide of potassium in large and frequent doses, as much as ten to fifteen

grains every fifteen minutes being given as the attacks are coming on. Rest in bed is absolutely essential when the vertigo is frequent or severe. Respecting the treatment of internal-ear vertigo, it may be said that a typical case of this form of disease presents deafness which is irremediable. For immediate relief of the tinnitus, nothing has been

found by Burnett equal to bromide of potassium. If the case is seen at the beginning of the disease, and there is reason to surmise the existence of an exudation, an extravasation, or a hæmorrhage into the labyrinth, the administration of the iodide of potassium, or of mercury, or of both, would certainly be indicated.

QUARTERLY REPORT ON PSYCHOLOGICAL MEDICINE.

No. VII.

By NORTON FOLSOM, M. D.,
BOSTON.

1. CAMPBELL, J. A.—The necessity for careful physical as well as mental examination prior to sending patients to asylums. "Lancet," July 1, 1882.
2. TURNBULL, F. M.—Education as a means for the prevention of insanity. "Jour. of Nerv. and Ment. Dis.," Apr., 1882.
3. ———.—Le régime des asiles d'aliénés et la loi du 30 juin, 1838. [Bulletin.] "Progr. Méd.," June 10, 1882.
4. DANA, C. L.—The asylum superintendents on the needs of the insane, with statistics of insanity in the United States. "Jour. of Nerv. and Ment. Dis.," Apr., 1882.
5. MORTON, W. J.—Colony treatment of the insane; a visit to Fitz-James, at Clermont, in France. *Ibid.*
6. CROTHERS, T. D.—A study of the causation of inebriety. *Ibid.*
7. CROTHERS, T. D.—A clinical study of the disease and curability of inebriety. "Am. Jour. of the Med. Sci.," July, 1882.
8. LEIDESDORF, M.—Ueber den Einfluss einiger ätiologischer Momente auf die Form und den Verlauf von Geistesstörungen. "Wien. med. Woch.," June 17, 24, 1882.
9. CLOUSTON, T. S.—Alternation, periodicity, and relapse in mental diseases. "Edinb. Med. Jour.," July, 1882.
10. VERTY, W. P.—Insanity from traumatism. "Am. Jour. of Neurol. and Psych.," May, 1882.
11. FOVILLE, A.—Remarks upon megalomania, or partial lypemania with a predominance of "delirium of greatness." "Alienist and Neurol.," July, 1882.
12. DRAPER, J.—Insanity in Great Britain and upon the Continent of Europe. Its differing phases and modes of treatment compared with those prevailing in the United States. *Ibid.*
13. OEFFINGER.—Ueber die besondere Beschaffenheit des Geruchssinnes bei Geisteskranken. "Irrenfreund," xxiv, 6, 1882.
14. BLANCHE.—La folie doit-elle être considérée comme une cause de divorce? [Acad. de Méd., Paris.] "Progr. Méd.," May 13, 1882.
15. FREUSBERG.—Querulantenwahn. "Irrenfreund," xxiv, 5, 1882.
16. IRELAND, W. W.—On the diagnosis and prognosis of idiocy and imbecility. "Edinb. Med. Jour.," June, 1882.

1. To exemplify the occasional neglect of the physical condition of the insane, Dr. Campbell gives a series of eight cases, admitted to the Garlands Asylum, at Carlisle, in which it was evident that the attention of the certifying physician

had been so closely directed to the mental phenomena that the physical condition was entirely overlooked. The patients were all either very severely injured, or moribund from disease. The reports of other asylums show that this

neglect is not peculiar to any one locality. It is dependent, in some instances, upon the inherent difficulties of making a careful physical examination of an excited or filthy patient, but more often upon an underestimate of its importance. [There is probably no public asylum in the world to which patients are not brought in a condition that makes transportation an unnecessary cruelty. Frequently the injuries which they have sustained, before the nature of their "incompatibility with their environment" has been ascertained, at the hands of guardians of the public peace, or of their own friends, are attributed, when discovered later, to cruelties practiced at the asylum; with the result of impairing public confidence in such institutions, and, consequently, causing a neglect of the advantages which they offer in the early treatment of the disease. It would be better if there were more uniformity in the form of "statement" which is made by examining physicians as a basis for their certificates; and it would be better also if, under some general law, the statements and certificates were to embrace the exact physical condition as well as the mental phenomena. The worthless character of the statements generally furnished has often been complained of, and is exemplified by the ridiculous lists of assigned causes for insanity. Yet the certifying physician is frequently in a position to obtain information as to the patient's history from those who have been with him, and thus determine facts of importance that the physician at the asylum would ascertain with difficulty, or not at all. These remarks apply more particularly, of course, to cases of emergency at public asylums. The physician who is called to examine such a case should realize the grave responsibility that rests on him as to the capacity of the patient for transportation, who may be fatally injured, or near his end from disease, without exhibiting the usual gross symptoms of such a condition. The influence of mania and other forms of insanity in *masking* injuries is well known; its effects are sometimes well-nigh incredible. Moreover, the examiner should realize that the character and reputation of his professional brother at the asylum are extremely likely to be assailed if death occurs soon after a patient's admission; and, if undue violence has been used in the capture and control of the patient (as is

too often the case if the disease is not recognized at once), every effort will be made to make *scapegoats* of the asylum officers and attendants.]

7. In a review of thirty-five cases of *inebriety* and the use of opium, admitted to Walnut Lodge, Hartford, Conn., during the year 1878, discharged within the year, and followed up for four and a half years since, Dr. Crothers specially notes the following facts: Heredity was a prominent factor in causation, traceable in nearly all the cases. In many there was also a special exciting cause in the shape of mental or bodily strain. In a large proportion of cases, when inebriety begins it follows a more or less regular order or course, which can be traced and anticipated in study and treatment. The essentials of treatment are, briefly, the removal of all exciting causes; building up the general strength and vigor of the organism, physically and morally; the withholding of alcohol as absolutely as possible, all restraint being adapted to the special needs of each case; these means being used for periods of not less than from one to three years. The results, after treatment in the asylum for from thirty-four days to six months, averaging four months to each patient, have been as follows: *Nine*, including two who have died, remained temperate. *Five* relapsed once, but are now temperate. *Five* relapsed twice or more, at long intervals, and are now well. *Seven* relapsed, and are still drinking. *Four* relapsed, and died or became insane. *One* died under treatment. In the remaining *four* of the thirty-five cases no history has been obtained since they were discharged "greatly benefited." Dr. Crothers states that all these patients had developed a low grade of chronicity, and had exhausted every means of treatment before coming to the asylum as a last resort. He thinks that the results of treatment to-day, with the worst cases, and the crudest means and methods of restoration, only faintly indicate the possibility of cure in the future. The restoration of seven in thirty-one cases, after a period of four years and more, is an unmistakable sign of the eminent curability of inebriety, with better means and larger knowledge.

9. Dr. Clouston remarks in regard to *alternation, periodicity, and relapse in mental diseases*, that one of the most fundamental of the laws which govern

the higher functions of the nervous centers in vertebrates is that of alternation and periodicity of activity and inactivity. Not only are the mental activities of human beings strongly influenced by the various physiological periodicities, such as that of the reproductive function, but there are thousands of sane persons who are subject to more or less regular alternation, or rise and fall, in their mental habit of action. Various diseases of the nervous system, other than mental, are markedly periodic in their symptoms and times of recurrence. In the special form of insanity first described by Falret and Baillarger under the name of *folie circulaire*, the alternating and recurring periods of mental exaltation, depression, and sanity, may vary in absolute duration, but always recur and follow each other with more or less regularity for years. In the typical case, the periods should be each of about the same length in each psychological circle, and the recurring circles all of about the same size. The characteristics of the disease are the same in different attacks at the same time. The exaltation is very pure brain exaltation, often with much reasoning power left, but little control or common sense. There is generally great increase of the reproductive *nisus*. The depression is apt to be characterized by apathy and torpor rather than great mental pain; there are seldom strong suicidal feelings or impulses. The period of sanity is apt to be a sort of stupid, inactive sanity, wanting in volitional power, full affectiveness, and spontaneity. The mental balance goes on oscillating between melancholia and mania; standing still at the happy mean of apparent sanity just long enough to raise hopes that recovery has taken place, for a few times, till the nature of the disease becomes apparent to the physician, though not to the all-hoping relatives. It is a very incurable form of insanity. Dr. Clouston has been long impressed with the close relation of the mental and bodily alternations and periodicity in insanity in general to the great physiological alternations and periodicities, and concludes that they are the same in all essential respects, and only differ in degrees of intensity or duration. In both sexes the course of the majority of cases is markedly influenced by the law of sexual periodicity; more irregular, of course, in

the male. The influence of seasonal periodicity may also be traced. Minute study has revealed that, in by far a majority of all acute cases, there exists, at some time or other, in some form or degree, in the course of the disease, a tendency to alternation, periodicity of symptoms, remissions, or recurring relapses. Dr. Clouston is surprised to find that, of three hundred and thirty-eight patients admitted to Morningside Asylum in 1881 (mostly with mania and melancholia), in forty-six per cent. of the females, and in forty per cent. of the males, there was relapse, alternation, or periodicity of symptoms in the course of their diseases. Many of the cases were chronic on admission, so that of the recent cases the decided majority showed these symptoms. Thirty-nine per cent. of the cases of melancholia, and fifty-four per cent. of the cases of mania, were alternating, or relapsing, or showed diurnal, or monthly, or seasonal, or sexual periodicity. Dr. Clouston comes to the general conclusions that periodicity and a tendency to alternations of elevation and depression are an almost universal characteristic of mental diseases; that they are much more marked where they are very hereditary than in any other cases; that they are more common in youth, puberty, and adolescence; that they are in their essential nature merely the exaggerations or perversions of the physiological diurnal, menstrual, sexual, or seasonal periodicity of the healthy brain; and that the cases that have been called *folie circulaire* are merely typical or exaggerated, or more continuous examples of that universal tendency before referred to. The greater number of those suffering from this last-mentioned form of disease, in his experience, are persons of education; and very many of them are persons of old families. He suggests that it is one of the modes by which nature brings to an end bad stock that has become bad by over-cultivation of the brain for many generations. There is remarkably little tendency toward dementia in the typical cases. The pathological appearances are those common in cases of chronic insanity, with no special pathology whatever. In all cases Dr. Clouston has found more or less brain atrophy, especially affecting the convolutions; in all of them, thickening of the membranes; in most of them, vascular dis-

ease, with, in one or two cases, local disintegration from embolisms, etc. The great point in treatment is to prevent the brain from getting into the vicious circle of continuous alternation by endeavoring to really complete the cure in all cases of mania—especially in all cases of adolescent mania, and by enforcing prolonged quiet and rest after attacks in persons who have shown a tendency to recurrence and relapse. The whole organism should be kept up to physiological perfection. A non-stimulating farinaceous vegetable diet, and no alcohol, is the best, with out-door life and plenty of muscular exercise. A regular life, without excitement, is indicated. The use of the bromides, combined in the more acute stages with Indian hemp, has been of service in stopping and cutting short the attacks, and sometimes averting them for a long time.

10. Dr. Verity has been led to make a thorough *résumé* of the literature of *traumatic insanity* by a case of suicide in which the determination of the mental status became important for business reasons. Traumatism appears to be quite a frequent cause of insanity, as it is thus assigned by Schläger in ten per cent. of a group of five hundred cases. There is generally an interval after the injury, before the insanity—frequently of more than a year; but some alteration of temperament may be observed from the time of injury. Vagaries of sight and hearing, restlessness, irascibility, loss of memory, and confusion of mind, are often observed. Pain in the head is by no means universal. The insanity generally begins, according to Skae, with maniacal excitement. In many cases this is followed by a chronic condition, lasting for years, of suspicion and irritability, with, perhaps, homicidal tendency, melancholia being rare. The prognosis is unfavorable, the tendency being to pass into dementia and terminate in organic brain disease. Kiernan states that in traumatic insanity epilepsy is comparatively uncommon; that most cases end in progressive paresis; that depressing delusions are common; that hereditary taint

is uncommon; that slight injuries are as much to be dreaded as grave ones; that a guarded prognosis is to be given in all cases.

In Dr. Verity's case the injury was by being thrown forcibly to the floor, striking the head. There was no external injury; but pain and a feeling of heat ensued on the side opposite to the injury. There was gradual alteration of the temperament, increase of sexual appetite, and deterioration of character; with ringing in the ears and false hearing. The patient became intemperate. Three years after the injury he assaulted his wife while intoxicated; and two days after, while sober, he hung himself. The dura mater was found to be extensively adherent to the skull and to the pia mater; and on one side the latter adhered in patches to the cortex cerebri. The Pacchionian bodies were unusually developed, one of them penetrating the cranium.

11. Dr. Foville devoted his remarks before the Section of Mental Medicine of the International Congress at London, in 1881, to a description of *megalomania*, which is a form of ambitious mania not associated with general paralysis, but having some resemblance to the delusions of that disease. The delusions of grandeur in the latter form, however, are more diffused, unstable, and absurd than in the former. Megalomania, in short, is a steady, precise, and systematic monomania of ambition and pride, always associated with delusions of persecution. A group of five cases sufficiently illustrate the type of disease.

12. [*Insanity and its treatment in Europe and America* are compared by Dr. Draper, after an extended visit to Great Britain and the Continent. He finds much worthy of praise in European methods of treatment, and much which calls for criticism. His experiences are very interesting reading. He is fully persuaded of the difference in the types of insanity in England, the Continent, and America, and in this, and in difference of climate, finds ample ground for variation of practice in regard to mechanical restraint.]

QUARTERLY REPORT ON ANATOMY AND PHYSIOLOGY.

No. VII.

By WILLIAM C. AYRES, M. D.

1. HOLL, M.—Ueber die Fossæ prænasales der menschlichen Schädel. "Wien. med. Woch.," June 17, 24, 1882.
2. TUKE, J. B.—Note on the anatomy of the pia mater. "Edinb. Med. Jour.," June, 1882.
3. MAYS, K.—Ueber die Bewegungen des menschlichen Gehirns. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxviii, 1, 1882.
4. WALLER, A., and DE WATTEVILLE, A.—On the influence of the galvanic current on the motor nerves of man. "Brit. Med. Jour.," May 27, 1882.
5. DENTI e BERRA.—Di una concomitante anomalia arteriosa e nervosa. "Gazz. degli Ospit.," June 7, 1882.
6. LABADIE-LAGRAVE et RICKLIN.—Des éléments figurés du sang et de l'hématopoièse. [Rev. gén.] "Rev. des Sci. Méd.," July, 1882.
7. MARCHIAFARA, E.—Sull' aumento dell' attività emopoetica del midollo delle ossa consecutivo a gravi emorragie. "Gazz. degli Ospit.," Mar. 22, 1882.
8. FANO, G.—Della sostanza che impedisce la coagulazione del sangue e della linfa peptonizzati. "Sperimentale," May, 1882.
9. PETRONE, A.—La presenza dei corpi amilacei nel sangue (estratto) dell' uomo. "Giorn. Internaz. delle Sci. Med.," iv, 4, 1882.
10. MALT, R.—Ueber das Basen-Säureverhältniss im Blutserum und anderen thierischen Flüssigkeiten. Ein Beitrag zur Lehre von der Sekretbildung. "Wien. med. Woch.," July 1, 8, 1882.
11. MARTIN, H. N.—The influence upon the pulse rate of variations of arterial pressure, of venous pressure, and of temperature. "Trans. of the Med. and Chir. Faculty of the State of Maryland," 1882.
12. SEWELL, H., and DONALDSON, F.—The influence of variation of venous and of arterial pressure upon the cardio-inhibitory action of the pneumogastric nerves. *Ibid.*
13. SOLEA, L., e CAPARELLI, A.—Intorno alla influenza della recisione del pneumogastrico sulla velocità della corrente arteriosa. "Giorn. Internaz. delle Sci. Med.," iv, 3, 1882.
14. MORAT.—Sur l'innervation motrice de l'estomac. "Lyon Méd.," July 2, 1882.
15. LEUBE, W.—Ueber die Veränderungen des Rohrzuckers im Magen des Menschen. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxviii, 2, 1882.
16. VARIOT, G.—Sur la distribution des nerfs dans les voies biliaires extra-hépatiques. [Soc. Anat., Paris.] "Progr. Méd.," June 17, 1882.
17. GAGLIO, G., e DI MATTEI, E.—Su di un' azione miotica della bile. "Sperimentale," June, 1882.
18. NOTHNAGEL, H.—Zur chemischen Reizung der glatten Muskeln; zugleich als Beitrag zur Physiologie des Darmes. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxviii, 1, 1882.
19. POWER, J. B.—On the excretion of nitrogen by the skin. "Dublin Jour. of Med. Sci.," May, 1882.

1. In his article on the *fossæ prænasales of the human skull*, Holl describes a very peculiar condition which is found in the Malayan races. Topinard and Zuckerkandl describe these fossæ as semilunar grooves, or often only deep semicircular depressions, which occur in the floor of the nasal cavity on both sides of the spina nasalis antica, and

extend laterally to the median surface of the superior maxillary bone. These fossæ have heretofore been considered as belonging exclusively to non-European races, but Holl has also found them among the inhabitants of the Tyrol known as *Träger Tiroler* and *Kärntner*. These skulls are of the greatest anthropological interest, since they are

peculiar to the lower human families and to animals. There is another point of interest connected with them, since we find in the foetus of six or eight months that they have an analogue in the floor of the nasal cavities which we know as the sulcus prænasalis. It is also of interest that, in measuring the skulls of apes, we find that the infra-orbital portion of the nasal cavity is far greater than the orbital, especially in full-grown specimens. In the course of their development there is a stage which corresponds to the condition of the skulls of Europeans. From various considerations we find that the skull of the Malays are intermediate between those of Europeans and those of apes in this particular—quite an interesting fact in comparative anatomy and evolution.

2. In his article on *the anatomy of the pia mater*, Tuke reviews Turner's "Introduction to Human Anatomy," and takes that author to task on the pia mater. In making his study, the organs were removed from the calvaria after careful reflection of the dura mater—all the other investments being left *in situ*—hardened in chromic acid, and thin sections cut perpendicular to the plane of the surface. On study of such sections we find that over the curved surface of each convolution a membrane exists investing it closely. This membrane, the pia mater, consists of two layers of a distinctly fibrous character, bound together by connective tissue so intimately as to be inseparable, giving us every warrant to consider it as one membrane. Between these two layers and in the connective tissue the vessels ramify. No membrane external to this exists, except the dura mater. From this and other reasons he concludes that a separate arachnoid membrane does not exist; that the name should be dispensed with, and, as a corollary, that the theory of the existence of a sub-arachnoidal space should be departed from; but we should speak only of two membranes of the brain and spinal cord—the dura mater and the pia mater; and of the two spaces—the sub-dural and the intra-pia-matral space or spaces. Slight consideration will show that something much more important than mere accuracy of anatomical description is involved in this contention, although that is in itself no inconsiderable matter. The question of practical importance is, What relation do the pia-matral spaces

hold to the vessels and the lymphatics of the brain? He gives two lithographic plates and four figures.

3. Mays has described the methods and results of his experiment on *the motions of the human brain* in an article of some forty pages. They were made on a girl who had a defect in the skull produced by scrofula. In her case the pulsations, etc., of the brain could easily be seen. Another case was that of a man, between twenty and thirty years old, who had lost a part of his skull from an injury. The movements of the brain were entirely different during sleep from those when the subject was awake; also different when standing from when reclining. He illustrates his article with many numerical tables and some four lithographic plates containing thirty-four figures. The article is very interesting from a physiological stand-point, and especially since he demonstrates errors which have been made by other authors on this subject. The original is well worth reading.

4. In their article on *the influence of galvanism on the motor nerves of man*, Waller and De Watteville, after duly pointing out the superiority of their method over those of other investigators, conclude: When the stimulus falls on an anodic bone, whether polar or peripolar, there is diminution of excitability. When it falls on a cathodic bone (polar or peripolar), there is increase of excitability. This holds for weak and moderate current-strengths; and within these limits the alternations of excitability bear a certain proportion to the strength of the polarizing and testing current. Beyond this, they observe phenomena which apparently point to an invasion of the anelectrotonic by the catelectrotonic influence—the opposite of that which obtains in Pflüger's intra-polar region of a frog's nerve. The effect of a uniform stimulus first suffers diminution, then increase (relative or absolute) by anodal polarization of the zone on which it falls. The state of diminished excitability in the anodic zone gives way, on breaking the current, to a state of increased irritability of considerable duration. The state of increased excitability in the cathodic zone gives way, on breaking the current, to a condition of diminished excitability of appreciable duration, which gradually passes into a state of increased excitability of a very considerable dura-

tion. The condition of diminished excitability is best observed after cathodic influence of a certain intensity and duration, and may extend to complete unexcitability under moderate stimuli during several seconds. It thus appears that electrotonic and post-electrotonic phenomena in man are similar in kind to those observed in the exsected frog's nerve. They observe, in conclusion, that the facts are demonstrated on the human nerve with great ease and uniformity of result. [The reporter would remark that, if the learned authors intend their articles to be of benefit to the medical profession at large, he would suggest that they greatly modify their diction in future.]

6. Labadie-Lagrave and Ricklin, after discussing at some length *the corpuscular elements of the blood*, and reviewing the whole literature of the subject, conclude: 1. In those animals which have nucleated red blood corpuscles, as well as in those whose corpuscles are without nuclei, in extra-uterine life, the erythrocytes produce the hæmatoblasts. 2. The hæmatoblasts have always the specific characters of red blood corpuscles; they are discoid and biconcave in form, and are more or less colored; they present nuclei, or are without them, according to the animal examined. 3. The relations of origin between the red blood corpuscles, the hæmatoblasts, and the leucocytes, are not known. Nevertheless, the discovery of the hæmatoblasts renders it probable that the red blood corpuscles are formed by direct transformation of the leucocytes. 4. A plausible hypothesis, suggested by certain microscopic appearances, is that the hæmatoblasts are the product of an intra-protoplasmatic genesis of the white blood corpuscles. The microcytes are red blood corpuscles made spherical by extraneous agencies.

10. Professor Maly writes on *the base and acid relations of the serum of the blood and other animal fluids, and their relation to the formation of the secretions* of the human body, and concludes that: 1. In spite of the alkaline reaction of the blood, it contains salts of an acid reaction, such as the monophosphate of sodium (NaH_2PO_4), which forms when the diphosphate of sodium and carbonic acid come in contact. 2. That such alkaline-reacting substances as diphosphate of sodium and bicarbonate of sodium are, theoretically, acids, since they contain an intact hydroxyl which

is capable of being replaced by a metal. 3. Both organic and inorganic acids are continually formed in the blood by oxidation, such as carbonic acid, sulphuric acid, phosphoric acid, and such intermediate acids as hippuric acid, uric acid, etc. 4. The changes between the acids and bases in the blood are highly complicated, as they are in other fluids, and, although the reaction of the blood is alkaline, there are many compounds of it which are of an essentially acid nature. Alkaline substances are to be found in the blood only in an empirical sense, while, theoretically, alkaline substances are not to be found there, nor indeed is it possible for them to exist in it. 5. The acids and acid salts of the blood are much more diffusible than the neutral substances, and therefore in such a mixture of salts and acids as we find in the blood the acid molecules are more diffused. This he concludes to be very important in the formation of acid secretions by the various glands of the body. He then gives the chemical formulæ for the various transformations in the body. He concludes by saying that, since the blood brings about acid reactions, it must be acid itself. He then raises the question, What part of it produces these acid reactions? He thinks that there are many acid parts of it; that the acid substances are very minute, but are in a free state. The stronger the acid, the less of it is free, and the more of it combines with salts; the principal free acid is carbonic acid, because it is the weakest, and the only one in a gaseous form. The action of these acids is expended on all mineral and organic substances which can combine as bases, from carbonic acid to the albuminous molecules. From these causes the digestive substance, peptone or propeptone, has an acid reaction, as he promises to show in a future publication.

11. Professor Martin communicates some interesting observations on *the influence of variations of arterial pressure, of nervous pressure, and of temperature, upon the pulse rate*. The guiding idea in these experiments is to prevent all circulation through any part of the body of a warm-blooded animal but the heart and lungs. From the want of blood, the brain, spinal cord, and sympathetic ganglia very soon die, and so the heart is liberated from the control of any nerve centers outside of itself. [Since the anatomy of the larger arte-

ries is entirely different in a dog (the animal experimented on) from what it is in man, I would recommend a reference to the original.] In order to remove all sources of error, all the blood of the animal is washed out, and defibrinated calf's blood is made to circulate through the heart and lungs. The animal is then placed in a warm, moist chamber, the temperature of which is kept constant, as also that of the blood which is allowed to pass into the heart. The pressure on the blood is also controlled. Many investigations have previously been made as to the effect which aortic pressure has on the pulse rate, and there seems such a wide difference in the results of the various authors that Martin thinks that they have all been working under some hidden influence, of the presence of which they were not aware. For instance, Ludwig, Heidenhain, Von Bezold, Narvecki, and Tschirjew, working with the greatest care, have come to entirely different results, viz.: that a rise of aortic pressure has no influence on the pulse rate; that it invariably slows it; that it invariably quickens it; that it sometimes slows it and sometimes quickens it. This unrecognized defect Martin considers largely due to a failure to pay proper heed to the temperature of the blood sent through the heart, a matter which has been quite ignored in most cases, or at least by no means properly taken into account. When the heart is cut off from all extraneous nervous influences, the venous and arterial pressure being kept constant, the curves of temperature and pulse rate are beautifully parallel. The pulse rate is, therefore, conspicuously dependent upon the temperature of the blood flowing through the coronary arteries. The quickened pulse rate in fever is most probably due to the temperature of the blood flowing through the organ, and not to any paralysis of the cardio-inhibitory nerve centers, or any excitation of the cardio-accelerator. Hence he suggests that, in those cases of high fever where death is imminent from failure of the overworked heart, it seems that the pulse rate could be lowered by placing the patient in a bath, so as to lower the temperature, thus taking the strain from the heart, which may possibly avert the threatened death. As to the question of what is the highest temperature at which the heart can live and what is the lowest,

he says that a dog's heart will beat regularly though slowly at 26° C., and regularly but rapidly and feebly at 41° C. Professor Martin adds that, since he has had so many valuable hints and much assistance from so many of his pupils in perfecting the method of experimenting which he describes, he calls it the Baltimore method, not that of any one individual.

12. The animals chiefly employed by Sewell and Donaldson, in their experiments on *the influence of arterial pressure upon the cardio-inhibitory action of the pneumogastric nerves*, were the frog and the terrapin. A mixture of one volume of whipped calf's blood to two of a 75-per-cent. solution of salt was used to nourish the heart. The animal was beheaded, and one cannula was inserted into the inferior cava, and one into the innominate artery or one of its larger branches, and all other vessels leading to and from the heart were tied. The blood flowed from a Mariotte's bottle into the venous cannula under a constant pressure, which could be varied at will by raising or lowering the flask. The arterial cannula was connected with a T-tube, one limb of which communicated with a manometer; the other limb was connected with an open rubber tube, through which the blood passed out of the heart. The arterial pressure could be varied by raising or lowering this tube. Both vagi were so prepared that either could be put upon the stimulating electrodes. 1. It was found that a slight increase of the pressure by which the heart was filled from the flask diminished the inhibitory power of the vagus, when the strength of the stimulating current and arterial pressure remained constant. Even so slight an increase of venous pressure as was obtained by raising the supply flask one half-inch showed itself in the diminished power of the vagus. When the flask was raised to six to eight inches, the vagus usually became powerless to stop the heart when excited by weak stimuli; that is, variations of venous pressure, within what are probably physiological limits, diminish the effectiveness of the cardio-inhibitory fibers of the vagus. 2. Variations of arterial pressure (that is, intra-ventricular pressure at the time of ventricular systole) have no effect on the action of the vagus. 3. Insufficiency of the semilunar valves, while greatly increasing the diastolic intra-

ventricular pressure, has no influence on inhibition by the vagus; though with this increase of pressure within the ventricle at its diastole the resistance to the systole of the auricles is augmented, there is evidence that the peculiar effect of increase of intra-cardiac pressure on the action of the vagus can only be exerted during the diastole of the heart. 4. In regard to the effect of variations of pressure within the sinus and auricles, the ventricle being excluded, a slight increase of intra-cardiac pressure was soon shown in the diminished efficiency of the vagus. 5. As to the effect of variations of pressure within the venous sinus alone, the rest of the heart being excluded, increase of intra-sinus pressure lessened the efficiency of the vagus in the same general manner. As a consequence of these experiments, the authors conclude that variation of intra-cardiac pressure has a very marked effect in modifying the intensity with which the cardio-inhibitory fibers of the vagus act on the heart.

15. Leube has made a series of experiments on *the digestion of cane-sugar in the human stomach*, and has come to the conclusion that experiments which have heretofore been done were rendered untrustworthy by the fact that the sugar used was not of pure quality. He insists that the first requisite for the success of the experiment is the purity of the sugar used. It must be taken in the form of crystals. We must always subject the specimen to the sulphate-of-copper reduction test before using it. He experiments with the gastric juices of healthy and diseased stomachs, and finds that they act quite differently as to their effects on cane-sugar. Both possess the power of reducing cane-sugar, but their powers of absorbing the reduced product are not the same. The action of a healthy stomach on cane-sugar is almost nothing, but that of an unhealthy stomach is very strong. He came to the conclusions that: 1. The gastric juices of healthy stomachs, and those of some forms of diseased stomachs, have the power of reducing cane-sugar. 2. The reduced sugar, after having been formed, is absorbed by a healthy stomach, but not always by a diseased stomach. 3. The acids of the gastric juices play an important rôle in reducing the sugar in the stomach.

18. Professor Nothnagel, in his article on *the chemical excitation of un-*

striped muscle, and the physiology of the intestines, gives us a series of experiments with very remarkable results. He prepared animals for experimentation in such a way that the stomach or intestines were drawn out of the body and then experimented on as follows: He placed a small piece of sodium chloride, or of a potash salt, on the outer surface of these organs. [His experiments were done with potassium and sodium salts among other materials, but these two gave the most astonishing results.] If he touched the outer surface of any part of the intestines with a small piece of a potash salt, a strong contraction took place, which was confined to the place of contact or went circularly around the intestine. If he touched the intestine with a sodium salt, a strong contraction likewise took place, which was not confined to the place of contact, but extended to some distance from it, and always, without exception, toward the pylorus. The duration of the contraction was from two to ten minutes. In order to bring about the remarkable contraction, potassium salts require a contact of one half to one second. The time between the beginning of contact and the commencement of contraction varies from one to eight seconds. The sodium contraction is entirely different. Sometimes the contraction does not take place at the point of contact, but two to four mm. toward the pylorus, which is never the case with potassium. The contraction extends one to eight cm. toward the pylorus, and is so great that if there is anything within the intestine it is driven out. When taken internally, sulphate of potassium, sulphate of sodium, and sulphate of magnesium act as purges. How astonishing it is, then, that, when applied to the outer surface of the intestine, they set up a peristaltic action which always goes in the direction of the pylorus! He then discusses the *modus operandi* of these salts when applied to the outside of any of the abdominal organs, and comes to the conclusion that: 1. Potassium salts cause, by external contact, a much stronger contraction of the unstriped muscle fibers than those of sodium. 2. The peristaltic action toward the pylorus produced by the external contact of sodium salts is not a direct result of muscular stimulation, but results in some way through the agency of the nervous apparatus which

is found in the walls of the intestines. He was not able to explain the action of sodium fully. It would not be so remarkable if the peristaltic action moved outward, nor even if it moved inward and outward at the same time; but that it should always go inward is indeed difficult to explain. He invites an explanation from others.

19. In his article on *the excretion of nitrogen by the skin*, Powers describes an ingenious method of calculating the entire amount of this gas which passes from the body in any given time by the excretory action of the skin. The mean result of all of his experiments (twenty-five in number) on healthy and unhealthy subjects, as to the amount of nitrogen excreted in one hour, is 0.0824 gram. In the case of a

patient with Bright's disease it amounted to 0.2392 gram., and in one healthy person it fell as low as 0.038 gram. He believes that under ordinary circumstances the excretion of nitrogen by the skin is very small indeed, even in cases of gout and Bright's disease, when it would naturally be expected to be great. In conclusion, he observes that, though he found nitrogen to be excreted by the skin in all cases, yet the quantities were so small that he does not believe the cutaneous excretion can ever act as a substitute for the renal to any appreciable extent. He invites others who have more leisure and more resources at their command to further prosecute this inquiry. [I must refer the reader to the original for the method of experimentation.]

Miscellany.

THE TEMPORARY TREATMENT OF DENTAL CARIES.—It often happens that physicians are called upon to put an end to the intense suffering occasioned by diseased teeth, the services of a dental practitioner not being at command. Failing to allay the pain, or perhaps declining to undertake what seems the hopeless task, the physician is apt to yield to the patient's importunities, and extract the offending tooth; thus many teeth that might be reclaimed are sacrificed. How to avoid this loss, and yet give relief, is set forth by Dr. Shirley Deakin in the July number of the "Indian Medical Gazette." Suppose a patient to be suffering from caries of a tooth connected with abscess of the gum, capable of opening his mouth only a short distance, on account of swelling of the side of the face; and to have passed sleepless nights, in spite of having applied creasote, carbolic acid, chloroform, etc., without much effect, beyond cauterizing his gums. The tooth being found to have a strong shell, the patient is directed to rinse his mouth well with tepid water (water of the temperature he finds most agreeable).

After drying the mouth, absorbent cotton, either in pledgets or twisted into a rope, is introduced around the tooth, so as to separate it from the tongue and the cheek. The cavity is then to be cleaned and dried out, as thoroughly as the tenderness will allow of, by means of a bent probe with some absorbent cotton twisted round its end. In this part of the procedure the great point is to keep the tooth cavity free from saliva, and thoroughly dry. The cavity is now to be filled with a cotton pellet saturated with the following mixture:

R Pure phenol (carbolic acid
No. 1).....f $\frac{3}{4}$ ss.
glycerin.....℥ xx
tannic acid.....3 ij
M.

Instead of this precise quantity of tannic acid, as much of it may be used as the carbolic-acid solution will take up, adding it slowly, forming a molasses-like liquid, the action of which, the author says, is quite different from that of either of the chief ingredients used separately. The application is painless, and it quickly desiccates the pulp, rendering it perfectly insensible, without

appearing to permeate the surrounding healthy dentine to any great extent. A piece of cotton soaked in a solution of mastich or gum benzoin in ether is applied over the pheno-tannic pellet, to protect it from the action of the saliva. The pledgets of cotton are now removed from about the tooth, and the mouth is well rinsed with water. Should there be any subsequent tenderness, the plug may be changed, two or three times a day at first, and then once in two or three days, until all inflammatory action has subsided. Often but one application is needed. As soon as the patient can bear the necessary manipulation the cavity is to be cleaned out thoroughly and stopped with oxychloride of zinc (*os artificiel*). The author has known this filling to remain serviceable for three or four years.

THE ODOR OF IODOFORM.—Having tried nearly all the devices that have been suggested for mitigating or disguising the odor of iodoform, and found them all of little or no avail, we have lately come nearer to the object by using oil of eucalyptus, according to the following formula:

R Pulv. iodoform., $\frac{3}{4}$ ss.;
Ol. eucalypti, f $\frac{3}{4}$ ss.;
Vaselin., $\frac{3}{4}$ iv.

M., fiat unguentum.

We do not remember to have seen any account of the oil having been used for this purpose by others. The ointment thus prepared is not without odor, but the odor is not that of iodoform.

AMUSSAT'S LAXATIVE SYRUP.—In the "Gazette Hebdomadaire," 1882, No. 22 ("Lyon Médical," June 4, 1882), we find the following formula for the preparation of the *sirop laxatif d'Amussat*, or *sirop de suc d'herbes*:

Rasped guaiacum wood,
chicory root,
burdock root,
waterdock root (*racine de patience*),
fumitory tops,
tops of viola tricolor arvensis (*pen-sée sauvage*), each, 100 grammes,
senna leaves, 500 grammes.

Bruise the materials, and infuse for twelve hours with five kilogrammes of boiling water. Strain, and make a second infusion with three kilogrammes of water. Strain under pressure, filter through paper, and make, with honey and sugar, each, three kilogrammes, a syrup, which is also to be filtered

through paper, and which should be of the density of 31° Baumé. Dose, one to two tablespoonfuls a day.

THE LATE DR. JAMES B. REYNOLDS.—Whereas, The Medical Board of the New York Foundling Asylum has learned, with deep regret and sorrow, of the death of Dr. James B. Reynolds in the midst of his usefulness and in the prime of his manhood,

Resolved, That the Board holds in the greatest esteem the remembrance of the active interest our late associate always took in promoting the welfare and prosperity of the New York Foundling Asylum, at one time its only medical officer; how well he discharged the laborious and onerous duties devolving upon him then, the good sisters can well attest.

Resolved, That as a citizen he was upright in all his transactions; as a friend, he was supereminent in combining a suavity of manner with a noble and disinterested elevation of mind; as a husband and relative, he discharged all the moral and social duties of life with a conscientious regard to affection and love; but, as a professional brother and friend, his sorrowing colleagues will long have to deplore the melancholy event which deprived them of the aid and counsel of so good and true a man.

Resolved, That we tender our warmest sympathy to the family of our late associate in their bereavement, and that a copy of these resolutions be sent to the family; also that a copy be entered for preservation, as a minute, in the records of the Medical Board, and that copies be forwarded to the medical journals of the city for publication.

J. LEWIS SMITH,
JOSEPH O'DWYER,
GEO. F. CAREY,

Committee.

August 31, 1882.

Whereas, The Medical Board of the Nursery and Child's Hospital receive with deep sorrow the announcement of the death of Dr. James B. Reynolds, who for the past sixteen years has been a member of the attending staff of this institution, contributing so much to its welfare and success.

Resolved, That we, his former associates, desire to record our admiration for his manly qualities, and our warm appreciation of his faithful service and superior counsel, so generously be-

stowed upon this and similar institutions.

We would express our high regard for his learning and distinguished skill as a physician, and for his honorable and attractive personal characteristics.

Resolved, That we deeply deplore the loss to the community and to the profession of which he was an honored member; that we shall ever cherish the memory of our associate as an example of professional rectitude and private virtue worthy of imitation; and that we tender to his bereaved family our warmest sympathy in their great loss.

Resolved, That a copy of these resolutions be communicated to the family, and that they be published in the medical journals of this city.

J. J. HULL,

E. L. PARTRIDGE,

September 22, 1882.

Committee.

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 13, 1882, to September 13, 1882.*—MURRAY, ROBERT, Colonel and Surgeon. Relieved from duty as Medical Director, Military Division of the Missouri, and to report in person to the commanding general, Military Division of the Atlantic and Department of the East, for duty as Medical Director of that division and department. S. O. 191, A. G. O., August 18, 1882. — BROWN, J. B., Lieutenant-Colonel and Surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 200, A. G. O., August 29, 1882. — WRIGHT, J. P., Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month, on surgeon's certificate of disability. S. O. 181, Department of the Missouri, September 8, 1882. — BACHE, DALLAS, Surgeon. Informed by Adjutant-General of acceptance of his certificate of disability of August 13, 1882. On sick leave from September 1 to 30, 1882. — HUBBARD, V. B., Major and Surgeon. Assigned to duty at Fort Wingate, New Mexico. S. O. 172, Department of the Missouri, August 28, 1882. — HUBBARD, VAN BUREN, Major and Surgeon. Orders to Fort Wingate, New Mexico, revoked. To report to commanding officer, District of New Mexico, for duty at Fort Stanton, New Mexico. S. O. 174,

Headquarters, Department of the Missouri, August 30, 1882. — SMITH, A. K., Major and Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 131, Department of Arizona, August 22, 1882. — HUBBARD, V. B., Major and Surgeon. Now awaiting orders, to report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 186, A. G. O., August 11, 1882. — BROWN, J. M., Major and Surgeon. Assigned as Attending Surgeon at Headquarters, Department of the South, in addition to his duties as Post Surgeon at Newport Barracks, Kentucky. S. O. 79, Department of the South, August 10, 1882. — BILLINGS, JOHN S., Major and Surgeon. By direction of the President, relieved from duty as a member of the National Board of Health. S. O. 190, A. G. O., August 17, 1882. — SMART, CHARLES, Major and Surgeon. By direction of the President, detailed as a member of the National Board of Health, organized under act approved March 3, 1879, vice Major Billings, Surgeon, relieved. S. O. 190, C. S., A. G. O. — BILL, J. H., Major and Surgeon. Granted leave of absence to December 1, 1882. S. O. 196, A. G. O., August 24, 1882. — ALDEN, CHARLES H., Major and Surgeon. Granted leave of absence for three months. S. O. 196, C. S., A. G. O. — SKINNER, J. O., Captain and Assistant Surgeon. To take charge of Medical Director's Office, Department of Arizona. S. O. 131, Department of Arizona, August 22, 1882. — COMEGYS, E. T., Captain and Assistant Surgeon. Assigned to duty at Fort Supply, Indian Territory. S. O. 174, Department of the Missouri, August 30, 1882. — CHERBONNIER, A. V., Captain and Medical Storekeeper. Granted one month's extension of his sick leave of absence on surgeon's certificate of disability. S. O. 186, C. S., A. G. O. — SEMIG, B. G., Captain and Assistant Surgeon. To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on surgeon's certificate of disability granted him in S. O. 121, C. S., A. G. O., to report by letter to the Surgeon-General. S. O. 186, C. S., A. G. O. — TAYLOR, M. E., Captain and Assistant Surgeon. Relieved from duty at Jefferson Barracks, Missouri, and to report by letter to the Surgeon-General. S. O.

185, A. G. O., August 10, 1882. =====
 WILCOX, T. E., Captain and Assistant Surgeon. To accompany Troop F, First Cavalry, to Fort Walla Walla, and then repair to these headquarters for assignment to duty at Vancouver Barracks. S. O. 106, Department of the Columbia, July 31, 1882. ===== TAYLOR, M. E., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 188, C. S., A. G. O. ===== CHERBONNIER, A. V., Captain and Medical Storekeeper. Upon expiration of his present sick leave of absence to report in person to Lieutenant-Colonel E. Swift, Assistant Medical Purveyor, New York city, for duty in the medical purveying depot in that city. S. O. 188, A. G. O., August 14, 1882. =====
 BYRNE, CHARLES B., Captain and Assistant Surgeon. The leave of absence granted him in S. O. 68, July 12, 1882, Department of the South, is extended two months. S. O. 189, A. G. O., August 1, 1882. ===== SPENCER, WILLIAM G., Captain and Assistant Surgeon. The leave of absence granted him in S. O. 80, April 7, 1882, from A. G. O., is extended two months. S. O. 191, C. S., A. G. O. ===== MUNN, C. E., Captain and Assistant Surgeon. The leave of absence granted him in S. O. 147, July 28, 1882, Department of the Missouri, is extended two months. S. O. 196, C. S., A. G. O. ===== SHUFELDT, ROBERT W., Captain and Assistant Surgeon. Now awaiting orders, to report by letter to the commanding general, Department of the South, for assignment to duty. S. O. 209, A. G. O., September 8, 1882. =====
 CORSON, JOSEPH K., Captain and Assistant Surgeon. Granted two months leave of absence. S. O. 210, A. G. O., September 9, 1882. ===== MADDOX, T. J. C., Assistant Surgeon. To proceed from Fort Clark, Texas, *via* San Antonio and Laredo, to Fort Brown, Texas, for duty. S. O. 96, Department of Texas, September 8, 1882. =====
 BARROWS, CHARLES C., Assistant Surgeon. Assigned to duty at Fort Grant, Arizona Territory. S. O. 130, Department of Arizona, August 21, 1882. =====
 EGAN, P. R., Assistant Surgeon. Assigned to duty at Fort Bowie, Arizona Territory. S. O. 134, Department of Arizona, August 25, 1882. =====
 WAKEMAN, WILLIAM J., Assistant Surgeon. Assigned to duty at Fort Douglas, Utah. S. O. 91, Department of the Platte, September 1, 1882. ===== POWELL, J. L., First Lieutenant and Assistant

Surgeon. Confirms telegraphic instructions of this date to allow the Lieutenant-Colonel Tenth Cavalry, and Troops G and L of that regiment, and Assistant Surgeon Powell, to continue, temporarily, and until further orders, at Fort Stockton, Texas. S. O. 84, Department of Texas, August 9, 1882. ===== MACAULEY, C. N. B., First Lieutenant and Assistant Surgeon. Appointed Assistant Surgeon, to date from August 10, 1882. ===== WAKEMAN, WILLIAM J., First Lieutenant and Assistant Surgeon. Relieved from duty at Columbus Barracks, Ohio, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 185, C. S., A. G. O. ===== EGAN, P. R., First Lieutenant and Assistant Surgeon. Relieved from duty at David's Island, New York, and to report in person to the commanding general, Department of Arizona, for assignment to duty. S. O. 185, C. S., A. G. O. =====
 EBERT, R., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Walla Walla, Wyoming Territory, to accompany Troop E, First Cavalry, to Boise Barracks, and, on arrival there, relieve Assistant Surgeon Wilcox from duty at that post. S. O. 106, C. S., Department of Columbia. =====
 RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Transferred from Whipple Barracks to Fort Apache, Arizona Territory. S. O. 119, Department of Arizona, August 3, 1882. =====
 MCCREERY, G., First Lieutenant and Assistant Surgeon. Transferred from Fort Apache to Whipple Barracks, Arizona Territory. S. O. 119, C. S., Department of Arizona. =====
 MACAULEY, C. N. B., First Lieutenant and Assistant Surgeon. To report in person to the commanding general, Department of the East, for assignment to temporary duty. S. O. 192, A. G. O., August 19, 1882. =====
 MACAULEY, C. N. B., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Fort Columbus, New York. S. O. 147, Department of the East, August 25, 1882. =====
 OWEN, WILLIAM O., JR., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Vancouver Barracks, Wyoming Territory. S. O. 114, Department of the Columbia, August 11, 1882. =====
 TAYLOR, MORSE K., Assistant Surgeon. Relieved from duty as Attending Surgeon at Detroit, Michigan. S. O. 157, Department of the East, September 9, 1882.

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Original Communications.

ON THE EXCLUSION OF ALBUMIN IN THE DIAGNOSIS OF INTERSTITIAL NEPHRITIS, AND ON THE EXISTENCE OF CIRRHOSIS WITHOUT ALBUMINURIA.*

By HENRY B. MILLARD, A. M., M. D.

It is unquestionable that albumin will always be an important factor in the recognition of those forms of nephritis ordinarily known as Bright's disease. I say those forms of inflammation commonly known as Bright's disease, because grave inflammation may exist, producing even cirrhosis, without the development of one of the conditions—namely, albuminuria, which Bright seemed to consider pathognomonic of the disease which bears his honored name.

In his "Reports"† Bright gives the details of thirty-one cases at Guy's Hospital terminating fatally, in which the autopsies showed the existence of organic disease of the kidneys. In all but four of these cases the *nephritic* lesions were evidently the direct or indirect cause of death. The four cases in which the cause of death could not necessarily be sought in the kidneys were: 1. Malignant ulcer of the œsophagus: kidney lesion; two cysts in cortical portion. 2. Chronic diarrhœa: kidneys had undergone a kind of fatty degeneration. 3. Fatal chorea: kidneys whitish, mottled, and rather

* Read before the New York Medico-Chirurgical Society October 10, 1882.

† R. Bright's "Reports of Medical Cases," London, 3 vols., 1827.

large. 4. Stupor without pressure: kidneys slightly mottled. In these four cases no mention is made of albumin being found in the urine. In the twenty-seven other cases, the clinical history of all being given, the urine was found to be coagulable before or after death in twenty-four cases. In the remaining cases it is not mentioned whether the urine was tested for albumin. In addition to the foregoing, Bright reports three cases of anasarca with coagulable urine, as cured. With the recognition of albuminous urine in these fatal cases of nephritis, and its existence in other dropsical conditions, it was natural that he should regard this morbid excretion as a necessary clinical accompaniment of the kidneys affected by disease as he describes them, viz.: "Kidneys large, disorganized throughout"; "kidneys firm, hard, granulated"; "serofulous pus near pelvis"; "kidneys lobulated—the whole hard and firm"; "kidneys small, hard, and almost cartilaginous"; "kidneys large, dark, and of a chocolate-color"; etc.

Bright's observations threw a flood of light upon many clinical conditions, the causes of which had been unknown, and, considering that his examinations of the kidney were made without the aid of the microscope, his descriptions of their conditions, emerging as he did from almost Cimmerian darkness, are good, though in many cases short and insufficient, as may be judged from some of the preceding descriptions. His macroscopic illustrations of the pathological kidney are, however, excellent, and modern writers on nephritis have not hesitated to avail themselves of the beautiful plates contained in his celebrated reports. Even Bright himself, however, recognized and depicted numerous dissimilar conditions of the kidneys, and, although several varieties of nephritis were shown by various writers after Bright, notably Rayer, to exist, it was not conceded until a lapse of twenty-five years, and after much discussion, that there existed forms of this disease pathologically distinct and different, and that the term Bright's disease was a sweeping appellation, covering a multiplicity of conditions essentially unlike.

When we consider that microscopic, and, later, pathological investigations, have revealed such a variety of changes in the kidneys, of a distinct and definite character, unknown to and unrecognized by Bright, I believe the period not remote when the nomenclature of affections of the kidneys will designate simply the character of the pathological changes, as fatty, waxy degeneration, interstitial or croupous nephritis, cirrhosis, etc. At present, certainly, it appears from Bright's own writings that the name "Bright's disease" has been applied to those diffuse inflammations of the kidneys accompanied by albuminous urine.

The fact is, however, that in chronic nephritis, especially in the interstitial, the appearance of albumin is often preceded for a considerable, and even for a very long time, by morbid changes in the kidney which are not recognized until the appearance of albumin. Indeed, nephritis may exist to such an extent as to produce even cirrhosis, without albumin *ever* making its appearance in the urine. Bartels * gives the details of the case of a patient in the hospital at Kiel, fifty-six years of age, who died five weeks after admission, and whose urine was submitted to frequent examinations without albumin being found. The most prominent symptoms previous to and after his admission were loss of strength, insensibility, apparently fainting, the extraordinarily low temperature (83° Fahr.) existing most of the time, and delirium. A few days before his death he was vaccinated, six vaccine pustules being formed, and two days before his death the temperature reached 106° Fahr. During the high fever of vaccination small amounts of albumin were found. This substance is, however, present in the urine in many cases of fever attaining a high temperature. The autopsy showed both kidneys greatly atrophied, cirrhotic, granular, retracted, and containing large and small cysts. The heart was greatly hypertrophied. There were marks of severe cystitis and stricture of the urethra. *The urine in the bladder was not albuminous.* There was no œdema of the cellular tissue.

Bartels gives this case *as the only one which had come under his observation in which albumin was entirely absent from the urine throughout*, and where, “*therefore*,” the renal malady was not recognized during the patient’s lifetime. The “therefore” is *ben trovato*, but illustrates the truth of my assertions concerning the too great reliance of practitioners upon the presence of albumin as a means of recognizing interstitial (catarrhal) nephritis. As the patient had been under observation for only five weeks before his death, and as the nephritis had evidently had a long existence, it is manifestly unjustifiable to assume that at no period of the disease *previous* to the admission of the patient to the hospital could albumin have been found. As it is, however, the case is illustrative.

Dr. Seiler, of Philadelphia, states that, of a large number of kidneys he has examined after death from various causes, he has not found more than three per cent. perfectly healthy; and other pathologists, who have made a large number of autopsies of subjects who died a natural death, have found it altogether the exception for the condition of the kidneys to be perfectly normal. The deflections from health in many of these instances were no doubt small—

* Von Ziemssen’s “Cyclopædia of Medicine,” vol. xv, p. 440.

probably so slight that only repeated and accurate microscopic examinations would have discovered anything abnormal in the urine of the patients. Still, I maintain that in catarrhal (interstitial) nephritis, at all events, the form designated by Charcot "primitive chronic interstitial nephritis," the albumin may not make its appearance until an advanced and hopeless stage of the disease has been reached.

To rely upon albumin solely as a means of determining the existence or non-existence of nephritis is to rely upon an *ignis fatuus*. It is at best but a coarse and primitive test of its presence, insufficient in itself, and unsatisfactory in comparison with more searching and absolutely accurate means of diagnosis. Regarded as supplementary to, and used *in conjunction* with, other physical means of diagnosis, and with rational and clinical symptoms, albumin becomes, however, when it is discovered, of the greatest value. Its persistent absence also, even when the microscopic indications of nephritis are present, is of importance in aiding to determine how extensive is the lesion of the kidney, and, to some extent, what parts are free from disease.

In a recent monograph Charcot * shows conclusively, I think, notably from experiments made by Nussbaum, Overbeck, and Heidenhain: 1. That the elimination of albumin, whether of the serum or globulin of the blood, by the kidneys, as a pathological condition, or of the varieties of albumin foreign to the constitution of the blood, as the white of egg, is not in any way a simple matter of filtration. He shows that aqueous filtration is performed or takes place in the glomerulus by means of its capillaries, whose thin walls, as it were, bare in the capsule of Bowman, from which it is separated only by a thin epithelial lamella, perform the function of filtration of the water at the expense of the blood plasma. 2. That the filtration of the water is a vital process, and that certain conditions and interruptions of the blood supply of the glomerulus bring about anoxæmia (anoxémie †) of the epithelia of the glomerulus, which interrupts its functions. 3. That the epithelia of the glomerulus play an important part in the secretion of glucose, salts, and albumin. 4. That the labyrinth or canals do not in any way participate in the secretion of albumin.

Admitting the correctness of these conclusions, it is easy to see that in inflammatory conditions of the kidney, as in cloudy swelling of the epithelia of the tubules and in hyperplasia of the connective tissue, the glomerulus may for a long time, and when the inflammation is mild, remain unaffected. In glomerulo-nephritis albumin

* Charcot, "Leçons pathogéniques de l'albuminurie," Paris, 1881.

† Anoxæmia, a deoxygenated state of the blood.

is almost invariably present. The conclusion that nothing is the matter with the kidneys because after several examinations of the urine no albumin is found, is sometimes literally a fatal error; yet how numerous are the instances where, after the orthodox one or two chemical examinations, the kidneys are pronounced "healthy!" These false conclusions are not reached, even as a rule, by the illiterate and uneducated practitioner exclusively, but by medical men who are considered eminent. I cite the following instance, not in a spirit depreciatory of an honored and useful hospital, but to show how often, if such a case can occur in an institution whose medical staff belong to the better-educated class of physicians, cases of non-recognized nephritis must occur in practice generally, and how many patients march toward their graves, their medical advisers all unconscious of the *teterrima causa* of broken health, until physical helplessness, convulsions, apoplexy, or death makes at last a diagnosis for the perplexed practitioner.

While visiting another hospital, in 1879, as one of the medical staff, there was admitted, May 9th, a young man, J. W. B., aged twenty-three years. He had been for two months an inmate of the hospital first referred to, from which he had been discharged a week or two before, as being no longer ill enough to require medical treatment. He understood that the physicians of the hospital had pronounced his illness to be some malarial trouble, with debility. He had not been confined to his bed. His sallow appearance and anæmic condition easily suggested the existence of some such disease.

I was led, however, to suspect the existence of interstitial nephritis. There were persistent headaches, great exhaustion, and slight nausea. There was hypertrophy of the left ventricle, but no œdema nor anasarca. An examination of the urine showed the existence of a large amount of albumin, oxalate of lime, pus, kidney epithelia, and numerous hyaline casts. Repeated examinations gave the same result. The urine was abundant. My diagnosis was entered as chronic interstitial nephritis. The violent action of the heart, with certain cerebral symptoms, led me to predict that apoplexy or convulsions would soon occur, and, indeed, eight days after his admission he was seized with an epileptiform convulsion. These recurred several times, a settled condition of coma being at last established, and he died May 27th. His relatives would not allow a post-mortem examination to be made. Being curious to know what the diagnosis of his case had been at the hospital where he had been so long, I inquired of the House Physician, and was informed that it had been considered a case of "anæmia and debility." At all events, it had not been entered nor treated as a case in which the kidneys were implicated. He stated that the urine was examined immediately after his admission, and that no albumin was found. I do not give the name of the hospital, though there is none in the city better known, because I do not consider that the purpose of my paper would be subserved by so doing. The case, however, is one of record.

To test the urine simply for albumin, and that only once or twice, is often useless. It must be tested repeatedly; the quantity,

specific gravity, and chemical peculiarities must be carefully noted, and, *most of all, the phenomena disclosed by the microscope* must be considered.

To assert that well-marked nephritis and cirrhosis may exist without the appearance of albumin in the urine, and without any marked variation from the normal urinary secretion, is a statement which might possibly be regarded as a theoretical assumption. Clinical and microscopic observations enable me, however, to demonstrate unequivocally the accuracy of my assertion. The following case will illustrate this:

In the middle of November, 1881, while visiting the hospital as a member of the medical staff, a woman, Mrs. X., about forty years of age, was admitted. She had for many years been addicted to the inordinate use of stimulants—in fact, had been a drunkard. There was found to be great enlargement of the liver, and there was phthisis pulmonalis. There was considerable fever, with light delirium, and a dry, red tongue. There was neither anasarca nor œdema, but certain symptoms, as headache and a disposition to stupor, and a peculiar complexion, made me suspect the existence of chronic nephritis. Examinations daily repeated showed albumin to be absent. The specific gravity of the urine was about 1.020; it was acid, and rather scanty. The microscopic examination showed: 1, oxalate of lime; 2, epithelia from the convoluted and straight tubules of the kidney; 3, epithelia from the pelvis of the kidney; 4, epithelia from the ureters; 5, pus. My diagnosis was *chronic interstitial nephritis with cirrhosis*.

December 1st, my term of service having expired, my successor took unusual interest in the case, but could recognize no evidence of nephritis, and heard with some incredulity my statement that the autopsy would demonstrate the existence of it with cirrhosis. December 7th the patient died. The autopsy showed the condition of the lungs and liver as stated.

Kidneys: size normal; capsule adherent; surface smooth, with numerous small retractions indicating cirrhosis. I have made numerous sections of this kidney for microscopic examination, and studied them carefully. The microscope shows the interstitial nephritis to be well marked, and that the cirrhosis was considerable, though not great. The drawing, Fig. 3, in my article on "The Anatomy of the Epithelia of the Kidney," published in the "New York Medical Journal" for June, 1882, showing the action of chloride of gold on the epithelia of the inflamed kidney, was made from this case.

I found also in this case that there was some glomerulo-nephritis affecting a few of the tufts, and presenting a phenomenon which I had never before observed nor seen described. The capsular investment was somewhat thickened, and the tuft was atrophied to a third of its normal size and pushed into a corner, as it were, of the capsule by an albuminous exudation which, so far as could be judged from the section, seemed entirely to fill the capsule. A drawing of this is given in Dr. C. Heitzmann's recent work on "Morphology," p. 775.

The next case, illustrative of the existence of nephritis for a long time unaccompanied by albuminuria, is as follows:

June 1, 1881, Mr. Y., aged sixty-seven years, consulted me. He had lost in weight thirty pounds within eighteen months. There was enlargement of the spleen of a malignant character, the result of previous malarial trouble. The health seemed otherwise good, except that there was a considerable loss of strength. The amount of urine was considerably increased. Upon examining it, I found pus corpuscles and epithelia from the straight and convoluted tubules of the kidney. No albumin. Microscopic examinations were made every two or three weeks, and the same elements, generally in small numbers, were found, together with the oxalate of lime. In October and November I found all of them greatly increased, and, in addition, a few epithelia from the ureters and the superficial, middle, and deeper layers of the bladder. Polyuria continued. There was no albumin at any time. The average specific gravity was 1.018. The patient was able to attend to business, which was not, however, exacting.

February 1, 1882, the first uræmic symptom that had appeared manifested itself in the form of violent itching over the whole body, continuing uninterruptedly night and day until relieved by an infusion of conium leaves, and producing *prurigo*. On the 20th of February I found, for the first time, albumin in the urine, and three days later there occurred a slight hæmorrhage from the kidneys, forming coagula in the urine; the microscope showed blood corpuscles, pus, epithelia from the straight and convoluted tubules, and numerous epithelia from the pelvis of the kidney. From this time to date, June 1st, there have been six hæmorrhages, the average intervals between them being about a week. None occurred after June 1st. The blood was so abundant as sometimes to produce small coagula in the bladder, making the passage of urine *per urethram* very difficult.

Each analysis of the urine has shown the existence of pyelitis, and that the blood came principally from the pelvis. Indeed, nephritis affecting the tube system seldom produces hæmorrhage.

An examination of the urine made May 1st shows the following: 1. Urine albuminous; 2, crystals of oxalate of lime; 3, red blood corpuscles, very numerous; 4, pus corpuscles, numerous; 5, epithelia from the middle and upper layers of the bladder, scanty; 6, epithelia from the pelvis of the kidney, *very numerous*; 7, epithelia from the convoluted tubules of the kidney, numerous.

One hyaline cast in a drop of the urine. A few shreds of connective tissue. Some of the kidney epithelia contain a few small fat granules.

Diagnosis.—Chronic catarrhal (interstitial) nephritis, with intense pyelitis, with slight ulceration, and slight cystitis. Frequent examinations gave the same results, though the blood corpuscles and pelvic epithelia greatly diminished in number.

The relevance of this case to the subject of my paper may be thus stated: For a period of nine months the existence of interstitial nephritis was shown by the microscope, but not until the expiration of this time were symptoms that might be attributed to uræmia present, nor was albumin found, and its discovery was soon followed by pyelitis with hæmorrhage. The indications of nephritis have now (June 1st) for the last six weeks been apparent by ordinary tests. I believe the spleen, which is greatly enlarged,

and has undergone sarcomatous degeneration, must exert an influence in obstructing the renal circulation, and may be in this case an important factor in producing the nephritic disease. Disregarding the etiology of the nephritis in this case, the fact remains that for a long time before the appearance of albumin the proofs of the existence of chronic catarrhal nephritis were clear.

Another case to which I will refer is that of a lady, fifty-nine years of age. She has suffered for several years from chronic muscular rheumatism of a severe character, with gouty tendencies. On examining the urine, in November, 1881, I found pus corpuscles, epithelia from the convoluted tubules, and hyaline casts. Together with these there were crystals of oxalate of lime and uric acid. On examining the heart, I found some hypertrophy, with defective valvular action, the patient suffering frequently from palpitation of the heart and dyspnœa. There was no trace of albumin. The general health was good. Repeated examinations of the urine, made between November, 1881, and June, 1882, showed the same results. Casts were invariably present.

Now, there is no doubt that the case of this lady is one of mild chronic catarrhal nephritis, as yet not extensive enough to interfere with the renal functions, or to produce albuminous urine. It is one of a numerous class of cases of nephritis which may exist in persons of good constitutions without assuming such proportions as to produce noticeable symptoms, or seeming to deteriorate the health, and without being accompanied by the presence of albumin. It is this class of cases, however, which frequently is accompanied by atheroma of the arteries, leading to apoplexy, without the ultimate cause of death ever having been suspected.

Albuminuria can of itself be in no wise regarded as significant of nephritis. Its persistent recurrence, unaccompanied by any other known pathological condition capable of producing it, is strong evidence in favor of the existence of the disease; but that is all, as many conditions are accompanied by it, among others those which produce a limited arterial blood supply to the glomerulus, or diminish arterial pressure. I do not allude to the numerous well-known causes of albuminuria besides nephritis, such as are enumerated by Ellis,* but to those cases where the co-existence of apparently uræmic symptoms—as headache, nausea, heart troubles, and debility—seems to indicate the existence of nephritis.

That the existence of nephritis in its earliest development—before the functions of the kidney are markedly impaired and the albumin is dissevered from the blood and lost to the system, and the nitrogenous elements are but scantily excreted; before the thin,

* Calvin Ellis, M. D., "The Significance of Albuminuria as a Symptom."

structureless membrane and delicate connective tissue are thickened into a destroying woof, and the epithelia swollen and destroyed; before the kidney has become contracted or enlarged—is of interest and importance, is evident enough. Not that even then a cure is always facile or possible, but it is during the existence of this fleeting opportunity only, ὁ ταχὺς καιρὸς, that the invasion of the small stream which may afterward become an invincible torrent can ever be controlled.

Upon the curability of catarrhal nephritis I will not now touch, but will advert to the means of its recognition without reference to the presence or absence of albumin.

The convoluted, irregular, and ascending tubules are lined by a single layer of epithelium, generally called cuboid; the descending branch of Henle's loop, by flat epithelia; and the collecting tubules, by columnar epithelia. There is in all these tubules but one layer, and, when an individual epithelium dies as the result of inflammation, it is never reproduced.

The epithelia of the tubuli contorti of the loop system, magnified 500 diameters, are irregularly angular, round when swollen, with one, and rarely two nuclei, and, magnified 1,000 or 1,200 diameters, distinctly showing a reticulum. Under this high power the nucleus, nucleolus, nucleolus, and granules are distinctly seen, forming the points of intersection in the reticulum. In inflammatory conditions pus corpuscles are formed in the junctional points of the reticulum, which, having been emptied from the interior of the epithelia, leave vacuoles, the epithelium often desquamating. The columnar epithelium appears, when magnified 500 diameters, as an elongated body having a similar structure, but without the rod-like formation. The pelvic epithelia are generally caudate, but sometimes cuboid or polyhedral. In interstitial, as well as in croupous nephritis, the kidney epithelia are always found, except when they may be, which rarely happens, absent for a short period. In the case of a patient who recently died from chronic interstitial nephritis, and who suffered from nearly all known uræmic symptoms, two or three examinations, made from four to six weeks before his death, showed the presence of neither pus nor blood corpuscles, epithelia nor albumin, though this last had nearly always been found before. This, however, is, in my experience, an unique case. The autopsy showed atrophy, and a high degree of cirrhosis.

But may epithelia from the kidney be found in the urine without the existence of nephritis? They may not.

1. There is in the tubuli uriniferi but one layer of epithelia.

2. Their presence never occurs without the simultaneous presence of pus in the urine.

3. In interstitial and in parenchymatous nephritis, epithelia may always be found.

4. Nephritis never exists without pus corpuscles in the urine, and blood corpuscles can usually be found.

If we discover in the urine pus and kidney epithelia, we may conclude that there is renal inflammation, just as with pus and epithelia from the superficial, middle, and deep layers of the bladder we should conclude that cystitis existed, or, with blood, pus, and epithelia from the cervix uteri, that there was inflammation of the cervix uteri.

Not only from the concurrent existence of pus and kidney epithelia can we diagnosticate the existence of nephritis, but the epithelia will show what region of the kidney is affected, as the pyramidal substance, the pelvis, or the cortex.

Together with epithelia and pus corpuscles and blood will frequently be found a few hyaline casts. In mild cases of catarrhal nephritis this is the only variety of cast found, and, indeed, in severe and advanced cases, it is very rare that any other kind of cast occurs.

As regards the importance and significance of casts as denoting disease of the kidneys, though many writers consider them unimportant, they are, nevertheless, as may easily be shown, indicative of nephritis.

Charcot * thinks that "the clinical importance of urinary casts has been greatly exaggerated. They are not, as they have been called, 'faithful messengers announcing to the clinical observer the anatomical condition of the kidney.'" Again, he states that "hyaline casts may be found in the urine in normal conditions. This fact, first pointed out by M. Robin, in 1855, has been confirmed by Axel Key, Rosenstein, and many other authors. They are also met with in various other affections than those of the kidney, and even where there is no albuminuria. Nothnagel says that he constantly found them in cases of severe icterus."

My reasons for believing that casts are never found in normal conditions of the kidney are these:

1. In a very large number of microscopical examinations of urine from which albumin was absent, I have never in a single instance found a hyaline cast without finding in the same specimen epithelia from the tubules, with pus. The two latter I have often found, with or without albumin, without finding casts.

* Charcot, "Bright's Disease," translated by Millard, New York, 1878, p. 33.

2. In a very large number of microscopical examinations of the kidney itself I never have found casts without the presence in the same specimen of other evidences of inflammation, as swollen epithelia, thickening of the connective tissue, pus, and blood corpuscles, fatty degeneration, etc.

3. I am confident that in the extensive researches I have made in the minute anatomy of the epithelia of the kidney, the results of which were published in the "New York Medical Journal" for June, 1882, and republished by Dr. C. Heitzmann in his recent work,* I have shown (for the first time) that the formation of every cast is accompanied by the destruction of the epithelia lining the tubule, which lost or perished epithelia are invariably replaced by an endothelial investment, which had not previously existed, of the structureless membrane.

It is possible that the slight importance the above-named observers attribute to the existence of casts may have been due to the fact that, the hyaline casts which they found occurring in urine containing no albumin, they concluded that the kidneys were free from disease. Epithelia and pus corpuscles also must, however, have been present. As granular, blood, and epithelial casts occur only in croupous nephritis, in which the urine is, with extremely rare exceptions, albuminous, albumin must have been present in the urine containing *them*.

Again, there is no doubt but that *mucous* casts, which have no significance, are often mistaken for *hyaline*. The latter are somewhat refractive, with straight edges, sometimes with minute granulations, and assuming the shape of the tubules in which they are formed.

The mucous cast has precisely the same shape, though it is usually a little narrower; "sometimes their resemblance to casts is even closer in consequence of precipitation upon them of granular urates, or amorphous phosphate of lime."† This granular deposit, however, may be recognized by its incrusting everything in the urine, and forming a deposit of its own (Tyson). Often micrococci will be found adhering to it, closely resembling the slightly granular appearance of the hyaline cast. The most important points of diagnosis are that the mucous casts are usually longer and more convoluted, or branching, more delicate, and especially that they are invariably, though sometimes very faintly, striated, which is never the case with the hyaline cast.

* C. Heitzmann, "Microscopical Morphology of the Animal Body in Health and Disease," New York, 1883.

† Tyson, "Bright's Disease," Philadelphia, 1881, p. 75.

The general appearances of these two varieties of cast are shown by the following drawings:

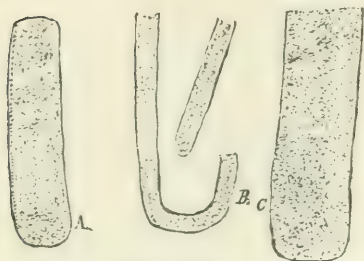


FIG. 1.—HYALINE CASTS.—A, from convoluted tubule of the second order; B, from the narrow portion of the loop tubules; C, from a straight collecting tubule. (Magnified 500 diameters.)

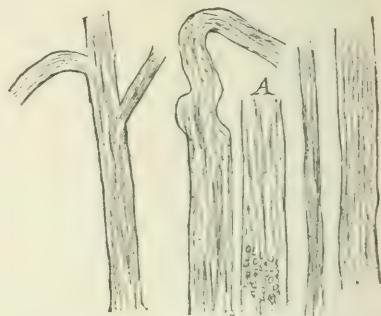


FIG. 2.—MUCOUS CASTS from straight collecting tubule with branches, and from the narrow and broad portions of convoluted tubules; A shows a mucous cast with micrococci adherent. (Magnified 500 diameters.)

The mucous cast is not an inflammatory product.

Tyson * gives it as his experience that, while he has found, “in a very few instances, casts in urine in which there was at the same time no albumin,” he *never has found* true casts in urine from what he considers normal kidneys.

Heitzmann,† a most accurate observer, says in reference to the non-existence of casts in normal conditions of the urine: “Reliable observers have seen casts without any albumin in the urine, and it has been asserted that mere hyperæmia of the kidneys may suffice to throw casts into the urine without any evil consequences—for instance, after treatment with large doses of iodide of potash. The former assertion I can corroborate, the latter is not in concurrence with what I have seen; the casts surely indicate nephritis, and the greater their number the more serious is the disease.”

In diagnosing the epithelia of the kidney, especially those of the convoluted tubes, there is most likelihood of confounding them with epithelia from the prostate or from the ureters, and with mucous and swollen pus corpuscles, all of which they closely resemble. Sometimes, though rarely, a diagnosis is impossible. They can be distinguished from pus corpuscles only by their size; the pus corpuscle must be taken as the standard of measurement, the epithelium from the convoluted tubes being about half as large again as the pus corpuscle. The pus corpuscle must be compared in the same drop of urine and in the same individual. It may swell so as to attain the dimensions of the kidney epithelium, but

* *Op. cit.*, p. 75.

† *Op. cit.*, p. 804.

may be distinguished in such a case by its paler granulations. The accompanying drawings represent the ordinary size and appearance of the two, magnified 500 diameters.



FIG. 3.—PUS CORPUSCLES.

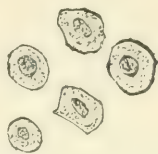


FIG. 4.—EPITHELIA FROM THE CONVOLUTED TUBULES.

The cuboid epithelia, after immersion in the urine, usually lose the cuboid form they possess while in the tubuli uriniferi, and become round and swollen.

I do not in this article refer to the diagnosis of croupous or parenchymatous nephritis, as albumin may be said in this form of nephritis always to be present.

There are, of course, more details in the diagnosis of nephritis than I can give here, as I do not pretend in this paper to present more than the outlines for diagnosis. The practitioner must familiarize himself with the appearances of the epithelia of the entire genito-urinary tract of each sex.



FIG. 5.—EPITHELIA FROM THE STRAIGHT COLLECTING TUBULES.



FIG. 6.—EPITHELIA FROM THE PELVIS OF THE KIDNEY.

While it is manifest that it is important to be *able* to recognize interstitial nephritis, even in the mildest form, I think it should be understood that the kidneys are sometimes so slightly affected by this disease that its discovery need not create consternation, nor, perhaps, any fear in the mind of the patient or physician. Where but a limited portion of the kidney is affected, and in but a mild degree, the renal functions may continue to be perfectly performed, and the general health remain undisturbed. I am convinced that, when unaccompanied by the presence of albumin, many such cases exist without the development of severe nephritis, and seemingly without deterioration of the health. Some nephritis probably exists in *all* cases of tuberculosis. Dr. C. Heitzmann informs me that, in three hundred autopsies made by him, at the Vienna General Hospital, of subjects who had died from pulmonary tuberculo-

sis, some degree at least of interstitial nephritis was found to exist in each case. Organic disease of the liver or spleen, cancerous affections, and high inflammatory conditions, are often accompanied by it, without albumin. At the same time the existence of nephritis, even in a mild degree and without albumin, in a subject where *no other* pathological condition exists to cause it, should lead to the utmost vigilance and a careful observance of all the laws of hygiene, and, if necessary, to remedial measures.

Finally, the diagnosis of nephritic disorders can be neither satisfactory nor possible unless the microscope is employed as a principal instrument in diagnosis. I am not aware that in the ordinary curriculum of medical instruction, in this country or abroad, the use of the microscope is an obligatory study in any medical college.

ON THE USE OF VIBURNUM OPULUS (L.) IN DYSMENORRHEA AND UTERINE PAIN.*

BY A. E. M. PURDY, M. D.

GENTLEMEN: The genus *Viburnum*, of the natural order *Caprifoliaceæ*, furnishes two plants used in medicine—viz., *Viburnum prunifolium*, and *Viburnum opulus*.

The *first* has been quite extensively used, is described by numerous observers, and has obtained a place in the forthcoming sixth decennial revision of the U. S. Pharmacopœia, while the *second* has received but little professional notice, and its literature is meager and unsatisfactory.

Believing the *viburnum opulus* to be more certain in its action than its companion of the same group, I shall present this evening some points in its history, and some of the clinical results of its use in dysmenorrhœa and uterine pain.

Viburnum Opulus, L.—*Nat. Ord. Caprifoliaceæ*.

The botanists describe this as a nearly smooth and upright shrub or small tree, rising from five to twelve feet in height; stems several from the same root, branched above; leaves three-lobed, three-veined, broadly wedge-shaped or truncate at base, broader than long; lobes divaricate, acuminate, crenately toothed on the sides, entire in the sinuses; petioles have two or more glands at the base, channeled above; flowers white or yellowish, reddish-white, in

* Read before the *Materia Medica Society*, September 23, 1882.

rayed, pedunculated cymes ; marginal flowers large and sterile ; inner flowers much smaller, and fertile. Fruit an ovoid, bright red, elliptic, one-sided drupe, very acid, ripens late, and remains upon the bush after the leaves have fallen. It resembles the common cranberry, and is sometimes substituted for it.

History.—*Viburnum opulus* is a handsome indigenous shrub, growing in low, rich lands, woods, and borders of fields, in the northern part of the United States, Canada, Europe, and North Asia, flowering in June, and presenting at this time a very showy appearance. The flowers are succeeded by red and very acid berries, resembling the common edible or low cranberry, and remain through the winter.

Pharmacy and Chemistry.—The bark is the medicinal part used. As met with in the shops, it is in thin, longitudinal curved pieces, from one fourth of an inch to two or three inches in length, and from two to six lines in width, with a grayish epidermis, and whitish-yellow or reddish-yellow internal integument ; it has no smell, and a peculiar, not unpleasant, bitterish pungent and astringent taste. It is frequently put up by the Shakers, when it is somewhat flattened from pressure. It has not been analyzed, but is known to contain valerianic acid. It yields its properties to water or diluted alcohol.

For medicinal purposes we procure the bark of the root, shrub, and its limbs (the fresh bark is preferable), and make a tincture with alcohol of 75 or 80 per cent. (Hale.)

This tincture should have a dark-red color, and a peculiar acid odor, very similar to the odor of valerian.

Therapeutic Properties and Uses.—"High cranberry-bark," says Hale, "is a powerful antispasmodic, and, in consequence of this property, it is more generally known among American practitioners by the name of cramp-bark. It is very effective in relaxing cramps and spasms of all kinds—as asthma, hysteria, cramps of the limbs and other parts in females, especially during pregnancy, and it is said to be highly beneficial to those who are subject to convulsions during pregnancy, or at the time of parturition, preventing the attacks entirely if used daily for the last two months of gestation." In the treatment of spasmodic dysmenorrhœa, for which variety this remedy is specially indicated, Hale prescribes the tincture—a few drops three times a day for a week previous to the expected period. When the pains commence he gives it every half-hour, or every fifteen minutes if the pains are severe. He has found it equally useful for the severe false pains preceding normal labor, which often render the woman's life a torture for weeks ; and he says "it is of

great value in after-pains, and should be given after every pain." Cramps in the abdomen and legs of pregnant women he was able to control very quickly by it, and claims it will prevent miscarriage if given before the membranes are injured, and when the pains are spasmodic and threatening.

The use of the *viburnum opulus* for the relief of dysmenorrhœa does not seem to have originated from professional sources. It has been in domestic use for a very long period as a remedy in the painful affections of women. Hale first gained his knowledge of the plant from its domestic use; he first used it in the form of a weak infusion, then in drop-doses of the tincture, etc. Of its use in cases of neuralgic and spasmodic dysmenorrhœa, he has yet to meet with a single case where it has failed to cure, and states: "So confident have I been of its almost marvelous powers that I have taken pains to look up some old cases dismissed years ago as incurable, in order to test this remedy on them. In every instance thus far it has cured these old obstinate cases. Its sphere of action seems to cover nearly the same grounds as galvanism." The same writer predicts its usefulness in spasmodic conditions of all hollow muscular organs and their muscular connections. "Nor have I decided whether it acts on the muscular tissues *directly* or indirectly through the motor nerves. It may prove to be a spinal remedy after all."

Dr. Meyer, of Wilkesbarre, Pa., in his suggestive pamphlet on Specific Medication, says: "*Viburnum opulus*, or high cranberry, and *viburnum prunifolium*, or black haw, seem to be antispasmodic, and to have a specific action upon the uterus. I have only used the first-named of these. My employment of it has convinced me that it is a uterine sedative, and often a remedy for neuralgic dysmenorrhœa, and for the commonly associated spinal irritation."

I have been in the habit of giving the concentrated tincture in five- and ten-minim doses for these conditions, and also as a preventive of threatened abortion. I believe that in the majority of cases it has accomplished the object for which it was given.

From a paper by Dr. Charles E. Hall, published in the "Phila. Med. and Surg. Reporter" for June 22, 1878, I have made the following abstract of cases:

1. Colored woman, aged thirty-five. Never pregnant, general health good works hard as a washerwoman.

Menstruation regular, but pain severe; says she passes something which looks like shreds and patches of flesh. No vag. ex.; could not rest from work. Has used various remedies, all of which had failed except opium.

Gave *viburnum op.* three times a day for three weeks before menstrual period, and every half-hour when period arrived.

Reported after four monthly periods; was taking the remedy regularly, suffering each month, but not taking opium, the pain not demanding it. She ceased taking the viburnum, and reported afterward that she had suffered as much as ever, and would not take any more of my medicine, as it did not cure unless she was always taking it. This patient afterward returned for the same remedy.

2. Miss A., aged twenty. From the commencement of menstrual life has suffered severely each month; pains spasmodic; general health good; is subject to hysterical attacks; has been using opium in some form each time, usually requiring three or four doses during the first twenty-four hours.

Gave viburnum three times a day during the whole interval, every half-hour at the period. At the next menstrual period had no pain; remedy continued, but limited to two weeks preceding the period. Five menstrual periods have passed without pain. The patient persists in continuing the medicine.

3. Mrs. —, aged twenty-two. Married two years, no children; had no pain at menses until upset from a boat while the period was present. Has since suffered each month. Viburnum used four months; has only slight uneasiness now each month; no medicine for several months.

4. Mrs. —, twenty-one years of age. Four years married; has great pain since marriage, never before. Vag. ex. reveals an elongated neck; very small cervical canal; cervix has been dilated with temporary benefit. General health poor; very thin, constipated, and in low spirits.

Used sponge-tents immediately preceding each period, and prescribed viburnum for three months. It is twelve months since treatment was suspended. Menstruation occurs without pain. General health greatly improved. The viburnum was continued two months after the local treatment was suspended.

5. Mrs. —, aged twenty-five. Since 1876, when an abortion on account of placenta prævia was produced on her, she has suffered very much with spasmodic pain each month. Viburnum, two weeks before expected time, gave first time great relief; took it again before the next period, and was entirely relieved.

Many other cases, says Dr. Hall, could be given, but these show that positive effects were produced by the drug; and he predicts cure when the pain is spasmodic and neuralgic, palliation when it is congestive or pseudo-membranous. He also used it in menorrhagia with intense crampy pain; also obtained speedy relief in cases of uterine colic.

The only other allusion in literature I have found was a brief statement on page 137 of Piffard's "*Materia Medica and Therapeutics of the Skin.*" The writer states that dysmenorrhœa is sometimes promptly relieved by *pulsatilla* and *viburnum opulus*.

My own attention was called to the drug by the suggestion of Dr. Piffard, but in its early use no records were kept. The following recorded cases will show somewhat of its action.

The preparation used was similar to the abstracts of the new Pharmacopœia. The dose, five grains. The strength of this abstract is as follows: One grain of the abstract equals two minims of the tincture. The tincture used was made from one part of the fresh drug to two parts of alcohol.

CASE I.—Mrs. —, aged twenty-six. Married one year. Suffering from cellulitis, which has been aggravated since marriage. Menstruation regular, usually lasting three to four days. As long as she can remember, has suffered at menstrual periods. The first day the pain is very severe, gradually diminishing until the close of the period.

May 11th.—Patient says she suffers dreadfully. Commenced taking five grains of the abstract two days before period three times a day; as soon as period commenced, every three hours; continued it every three hours for three days.

June 9th.—No pain whatever.

July 7th.—Very little pain, probably caused by a drive of twenty miles. Patient was absent from town, and wrote for more of the remedy, remarking she would not be without it.

September 5th.—Menstruates without pain.

This patient's appetite improved while taking the viburnum.

CASE II.—Madame —, aged twenty-three. Widowed six years. Married at fourteen, before she had menstruated. Menstruated for the first time two months after marriage. In fourteen months after marriage was delivered of a healthy child. In twenty-two months a second child was born. After the birth of this child the husband died, the patient was up day and night, and her menses did not return for eleven months, at which time they were accompanied with severe pain. Suffers at present with retroversion, two small fibroids, and leucorrhœa. Various measures and remedies had been used to relieve pain until May 28th, when she commenced the use of the viburnum (took only three doses at each period), which gave great relief; but the patient went out of the city, and suspended the use of the drug for one month, when the pain returned, with a dull, heavy feeling.

September 19th.—Has been menstruating two days, with a very great pain low down in the abdomen and back. Took viburnum twice, when all pain ceased, and she did not repeat the remedy.

CASE III.—Miss —, aged eighteen. Always had pain at menstrual periods; has taken the viburnum for four months, three times a day three days before the period, and every three hours when the period commenced. Says it is the first thing that has given her relief, as she now only suffers a little dull feeling.

CASE IV.—Miss —, aged twenty-two, short and stout; first menstruated at thirteen; always regular; for days always had pain, which commences with first appearance of menstruation, is central, low down, and bearing down; frequently passes shreds. Commenced the use of the viburnum in June, 1881. I find this patient continued the use of the remedy for about six months, with great relief at first, and no pain afterward, suspending its use.

CASE V.—Miss —, aged twenty-five, sister of last patient; menstruated first at twelve and a half; is regular, and the flow lasts two days; always had pain, which commences several days before the flow, but upon its appearance pain ceases; pain is central, low down, and also in the back. June, 1881, commenced taking the drug; at first was careless in its use, but, when she found her sister had received benefit, she obtained a fresh supply and renewed its use, taking it sometimes three times a day, sometimes every three hours, for two days; it always modified the pain, and many times cut it short; has not used it for several months, and has very little pain.

CASE VI.—Miss —, aged twenty-nine, suffering from cellulitis and hæmato-

cele. Suffers terribly at menstruation, and moderately during the intervals. Has taken large quantities of opium. Commenced taking the viburnum last May, three times a day, since which time the pain has been much less severe, and no opium has been needed.

I could recite many cases of the use of the viburnum opulus in uterine colic and the pain of pelvic cellulitis, but I do not wish to weary your patience. So many remedies and methods of treatment have been proposed from time to time for the treatment of dysmenorrhœa and uterine pain—the “Index Catalogue” of the National Medical Library devoting five of its closely printed columns to the subject—that I feel a hesitancy in suggesting another. But I am confident, with Hale and Meyer, that we have in this drug a powerful uterine sedative, and am satisfied—if preparations of the fresh drug, as insisted upon by Hall, be used—that many cases beyond the reach of any other therapeutic aid, except opium, will be relieved, and more positive results will follow than from the use of viburnum prunifolium.

THE DEVELOPMENT OF THE EYE.

By WILLIAM C. AYRES, M. D.

IV.

THE LIDS.

WE have already noticed that, at the time when the cornea had assumed its proper place, or after the mesodermal tissue had pushed in front of the lens as it left the surface and sunk into the secondary ocular vesicle, the ectoderm passed over the entire surface of the head, being only a little raised at the anterior pole of the eye. Otherwise there is no break in its continuity. There is, consequently, no sign of the lids or any organ depending upon them.

Shortly after (or, in the case of the ox, when the embryo has reached a length of about 20 mm.), the lids commence to make their appearance, not at the margin of the cornea, as is stated by some authors, but almost as far back as the equator of the globe. They first appear in the shape of a simple reduplication of the mesodermal tissue, and show no characteristic which they do not possess in common with the remainder of the mesoderm in the vicinity of the eye, except it be that they are somewhat more vascular.

A good representation of them at so early a period would be given if we were to open a book and push the pages on the one

side in a mass in a direction parallel to the back. The result would first be the raising of a fold above the level of the volume, whereas afterward, by the lateral pushing, the fold would be made to pass over on to the other side. This is precisely what takes place when the lids are formed. At first there is an elevation of tissue, and that, too, in a direction perpendicular to the surface of the head, whereas afterward this fold is made to accommodate its surface to that of the cornea, and in a very curious manner, which will be explained hereafter.

We shall see that the lid substance, the orbicularis muscle and the tarsus, are formed from the body of this fold, while the other members of the organ are produced by additional tissue growing into it. As the lids pass over to the cornea and assume the curvature of that part, the original epithelium is retained. We then find a kind of blind sac produced by the base of the lids remaining stationary while the margin advances. The epithelium on the applied surface of the lid becomes transformed into that of the conjunctiva palpebrarum, that of the cornea remains as such. The place where the lid leaves the globe is to furnish the fornix, while the space between this and the cornea proper will become the seat of the conjunctiva bulbi.

Just before the formation of the lens there was a cutis layer beneath the epithelium, and this layer was pushed in with the lens and gave origin to the capsule and the vitreous. When the defect produced for this lens formation is filled up, a cutis layer is again present, and remains so in after-life. We can therefore see why J. Arnold has expressed himself so decidedly against the idea that the conjunctival tissue does not pass over upon the cornea and that only the epithelium of the conjunctiva and cornea is continuous.

In the beginning there is no difference between the layer which lies immediately under the corneal epithelium and that of any other portion of the eye, whereas, at a later stage, on the cornea we have this tissue transformed to the dense membrane of Bowman, and at other places to the loose subconjunctival tissue.

As before observed, the lids are small nodules in the beginning, which stand at right angles to the general surface of the head. They then become bent round toward the globe, and, applying themselves to the surface of the cornea, assume the curvature of that structure. When this bending first commences, the structure is the same throughout the whole body of the lid, at least so far as the epithelium is concerned. After they have climbed a little way upon the globe, a curious change is begun, by which a great increase in the epithelial layer takes place by a formation of new

epithelial cells. These new-formed epithelial cells are produced both on the upper and on the lower side of the young lids, and extend along in front of them over the surface of the cornea. They come from both sides, and extend toward the center. When they have reached far enough, they meet over the anterior pole, coalesce, and cover the whole globe, so that the cornea, which before was the anterior limit of the eye, now becomes completely hidden from view. This epithelial tract is called the lid suture, and serves the purposes of pulling the lids down to their proper level, and of making them take the correct direction in which to develop.

In some instances the application of the lids to the cornea is so tight that, before the closure has been effected, this latter structure, by reason of being pressed at the circumference, bulges out at the center, and a nodule is produced at the pole. This is very interesting, since if the lids do not progress equally from all sides, and if this nodule be not corrected after the lids have closed up, the necessary defect is an unequal radius of curvature, and a consequent astigmatism. At any rate, we can see why it is that the normal cornea has a greater radius in the one meridian than in the other, since the lids progress from two directions, pushing the corneal tissue toward the middle.

During the formation of the lids we have, toward the inner side and at the fornix, a secondary reduplication, which is the beginning of the *membrana nictitans* in animals, and the *caruncula lacrymalis* in the human eye.

Near the time of birth of the animal the lids become separated again, so that each one is an independent member in itself. Before this separation takes place, the dependent parts of the lids have already made their appearance, and have progressed to a greater or less degree toward perfection.

Up to the time of the closing of the lids over the cornea the whole lid-body has remained homogeneous, the greatest energy of development having been expended in bringing about the general configuration of these members, and giving them their proper direction and curvature. After the closure they have their proper form and position, and we then find a second effort toward a differentiation of the body of the lids into the various organs which will allow them to perform their proper functions in after-life. The first one of these that we shall examine will be

THE MEIBOMIAN GLANDS.

Before going more specially into the manner of development of these organs, I would like to state a general law in the formation of

all cavities of the body which have an opening on the surface. Whether they be for secretion or excretion, they all have a general structure and method of development—i. e., they commence by a depression from the surface, and are lined with the same epithelium which has been the production of the external germinal layer or ectoderm. Their origin is, therefore, in a sinking-in of this external layer from the surface in a solid state. These solid formations are composed of the epithelial cells of the surface, and internal to these depressed epithelial cylinders there is, of course, a layer which represents the cutis. This whole organ, formed from epidermis and cutis, is again surrounded by the tissue of the middle germinal layer, or mesoderm, in a form or condition depending upon the organ under consideration.

The general configuration of the Meibomian glands forms no exception to this rule. We see that, at the place on the free margins of the lids where the openings of these glands always occur, a small pouching-in of the epithelium takes place, and always in a solid form. We then have a solid epithelial cylinder, one end of which is continuous with the external surface of the lids, and the inner end of which is finding its way into the compact tissue of the lid-body (which has been the product of the mesoderm).

Evetzky has published a long article on the development of the lids, in the "Archives of Ophthalmology," and, while he has made it unnecessarily long, he gives a complete picture of this portion of the development of the eye, and I would, therefore, refer the reader to his publication for the very minute details if the present short description should not prove sufficient.

The Meibomian glands make their first appearance, in the case of the ox embryo, when it has a length of from 8 to 9 ctm., and, as Evetzky remarks, are noticeable in the first stages rather by a more intense coloring with carmine of the cells engaged in their formation than by any characteristic structure. In these, as in all other cutaneous glands, we find the cells of the rete Malpighii growing longer, and at the same time the cells of the mesoderm increasing in number and becoming arranged in a peculiar order to admit of the developing gland.

This gland pushes farther and farther in, into the lid-body, at first in the shape of a single solid epithelial cylinder; but it soon branches, and a continuation of this branching process results in the figure which the adult gland presents. The cells near the mouth of the gland then become larger, and their protoplasm grows more transparent. The mouth is thereby made broader, while the inner end of the gland remains unchanged. The sprouting of the gland

always commences near the mouth, and goes regularly back; and it is also, for the most part, symmetrical on both sides.

We have already remarked that the gland was solid in the beginning; and, indeed, it remains so, as do its offshoots, for a considerable length of time. When the embryo is about 25 ctm. in length, in the middle of the cylinder the cells become granular, and a regular fatty degeneration of the center takes place. The degenerated cells are then absorbed, and by their destruction the canal of the gland is formed. The cells of the mesoderm, which we have noticed were increased nearer the end of the gland cylinder, now become transformed into a regular sac, which incloses the whole gland in all of its ramifications, and the organ is practically perfect.

THE LACHRYMAL GLANDS.

Just as we have described the formation of the Meibomian glands, the lachrymal glands are produced. They commence, in the ox, at about the same time, only their opening is near the fornix instead of being at the free margin of the lids. The figure of this gland is the same as that of the Meibomian for some time, as are, indeed, all the formations from the epithelium of the eyelids. It soon changes its form, however, so that its inner end is much thicker and its mouth small. Its central cells are, of course, derived from the epithelium, and these are surrounded by a sheath from the mesoderm. In the beginning it is also a single cylinder, but subsequently it sends out offshoots from its body, which give rise to its usual shape in the adult. Its central cells are also removed by fatty degeneration. When the cavity of the gland is produced, and the mesoderm has furnished its sac, the embryonic gland is complete. The sebaceous glands and sweat glands are produced in a similar manner, and a separate description of them is not at all necessary.

The eyebrows and cilia are also all of the same type of development, and what we shall say of the one will hold good for the other, the only difference being the time at which they make their appearance.

THE CILIA.

There are some peculiarities in the formation of the hair-sacs, and we will, therefore, look a little into their development. They make their appearance after the lids have closed over the cornea, but their first stages are the same as in the case of the structures we have already described. There is a simultaneous increase in the ectoderm and mesoderm, which results in a slight elevation of the part above the level of the lid-margin. The cylinders of the hair-bulbs run quite a great distance into the lid; in fact, almost to the

inner side. On the side of the cylinder we notice a single offshoot, which seems, by a further development, to form the oil-gland of the hair. This offshoot has from the beginning, and retains in after-life, a direction oblique to the axis of the hair-follicle itself.

If specimens of this stage of development be colored with carmine, we notice a tract of cells which do not imbibe so much of the coloring material as the others, and we can thus trace a path from the mouth of the hair-sac to the outer edge of the epithelial suture, which tract shows the path the hair will take when it comes out of the hair-follicle. At the bottom of the bulb the hair itself is formed, and as it develops it pushes itself out through this tract, which has already been metamorphosed into a kind of canal by a fatty degeneration of the cells which before occupied this immediate vicinity. Again the mesoderm forms a sac around the bulb, and the hair has only to develop from its follicle to the external surface of the lid.

The musculus orbicularis is formed, *in loco*, from a differentiation of the mesodermal cells of the body of the lids, but it makes its appearance first at the base of the lids, and progresses toward the edges by regular degrees as the lids develop.

The lids now become detached from one another, and stand independent in the position which they afterward retain. They are remarkably well developed at an early stage, and I do not deem it necessary to follow them any further. The only changes taking place in any subsequent stage will be found to be a further individual development of each part, to enable it to perform its function to better advantage.

REMOVAL OF A SUBMUCOUS FIBROID FROM THE CAVITY OF THE UTERUS WITH CONTRACTED OS UTERI.

BY ELIZABETH M. CUSHIER, M.D.

THE following case is presented as typical of a certain class of tumors which are fortunately uncommon, and which present unusual difficulties in their removal:

Miss L., a native of Canada, had always had excellent health until about six years previous to coming under observation, at which time she was thrown from a carriage, and soon after noticed that menstruation was more profuse than it had formerly been. Other than this, there were no symptoms of pelvic trouble. The flow continuing to increase in amount, one year later the patient consulted Dr. Thomas, who used a wire curette, and removed some small growths from the uterine cavity. Soon after the operation the patient returned to her home, and for a while there was a diminution in the menstrual flow. In less than a

year, however, the hæmorrhage had become as profuse as before. Two years later she began to have a watery discharge in the inter-menstrual periods. This has been constant during the past two years, and at times slightly tinted with blood. There has never been any hæmorrhage excepting at the regular time for menstruation.

The patient has been under treatment at different times by physicians where she was living, but without any benefit. During the past six months her general health has failed, and she has felt quite ill after each menstrual period, suffering at times from nausea and vomiting. She was first seen by me on January 17, 1882, and the following condition was noted: Her face was very pallid, and of a waxen hue, her lips were almost colorless, and her expression was weary and anxious. On examination, the mucous membrane of the genitals appeared perfectly blanched, and there was a profuse watery discharge from the vagina. The cervix uteri was situated posteriorly and very high up, while the anterior wall of the uterus could be felt lying very low, and encroaching decidedly upon the upper part of the vagina. Bimanual exploration showed that the body of the uterus rose above the pubes to about the same extent as at the fourth month of pregnancy. It was resistant, and but very slightly sensitive. The further examination was made in Sims's position. The cervix was drawn down with a tenaculum—not without considerable difficulty, owing to the extreme anteversion and weight of the body—and a flexible silver probe was introduced. The cavity of the uterus measured very nearly four inches. The cervix was small, and perfectly healthy. There was no hæmorrhage following the examination.

A diagnosis of fibroid tumor was made, and the growth was regarded either as being interstitial, or, if submucous, as having a very broad base. This was inferred from the extreme hardness of the anterior wall of the uterus, its broad and flattened, rather than globular form, and the length of the cervix, with its narrow canal, giving no evidence of pressure from a body within the uterine cavity. This point, however, could not, of course, be decided without further exploration after dilatation of the uterus. As menstruation was due in a few days, it was decided to wait until after that period before making such exploration.

On January 21st menstruation appeared. The flow was profuse, very pale in color, and lasted, without any special symptoms, six days; it then ceased. On the following day the patient complained of nausea and of feeling restless; her pulse became rapid and weak, and her temperature rose to 102° Fahr. During the day her face assumed a yellowish tint, and there was frequent vomiting. There was no pelvic pain, nor was there any special odor to the vaginal discharge. On the following day the temperature rose to 103° and the pulse to 120, the nausea and vomiting continuing. Under the free use of quinine and stimulants the attack gradually subsided, and on the sixth day from the beginning of the unfavorable symptoms the pulse and temperature were normal, and the nausea had entirely subsided. During the latter part of the time the vaginal discharge had become somewhat offensive. In view of these symptoms, it was decided not to make a preliminary exploration of the uterus, but to be prepared after dilatation to remove the growth at once if possible.

On February 4th Dr. Thomas saw the patient in consultation with me, confirmed the diagnosis, and advised an immediate operation, although he regarded the case as a grave one.

On February 6th four laminaria tents were introduced, but not without considerable difficulty, owing to the extreme anteversion of the uterus, and the

length and narrowness of the cervical canal. Previous to the introduction of the tents the vagina was thoroughly washed with a two-and-a-half-per-cent. solution of carbolic acid, and the tents were dipped in a ten-per-cent. solution of the same in glycerin. The vagina was tamponed, and the patient was given twenty minims of deodorized tincture of opium. No pain or other unfavorable symptoms followed.

On February 7th, twenty-four hours after the introduction of the tents, they, with the tampon, were removed, and the os was found well dilated. The tumor could now be felt projecting from the anterior wall of the uterus, and its attachment, as nearly as could be ascertained, extended vertically from just above the cervix to the fundus, and laterally across the entire front wall of the uterus.

Dr. Thomas then proceeded to remove the growth, first dividing the cervix on either side. The tumor was seized with the vulsella, and efforts were made to enucleate with the spoon-saw. Owing to the size of the os, which in spite of the dilatation was very small in comparison with the extent of the growth, considerable difficulty was met with in manipulating the instrument. The division of the cervix was then carried up to the vaginal junction, in order to give more sweep to the instrument. Soon another difficulty presented itself in the unusually succulent character and consequently diminished resistance of the growth, making it impossible to bring it away *en masse*. The traction necessary to separate it with the spoon-saw resulted in pieces of the tumor tearing away in the grip of the vulsella, and greatly added to the difficulty of the procedure. The work was continued with the dexterity and thoroughness characteristic of the operator, until, at the end of an hour's difficult labor, every shred of the mass which could be seized was removed. In order to accomplish this complete freeing of the cavity from small portions which could not be held in the teeth of the vulsella, Dr. Thomas had recourse to a small cranioclast, the broad blades of which seized and firmly held many of the fragments which it would otherwise have been impossible to remove.

At the completion of the operation the uterus was tamponed, as was also the vagina. It had been intended to unite the cervix by silver sutures at the close of the operation. The circumstances making it probable that intra-uterine injections would be desirable, it was decided to defer the closure of the cervix, and, if found necessary, to perform another operation for that purpose subsequently. When the patient recovered from the effects of the ether she complained of slight pelvic pain, for which the former opiate was repeated.

She rested well during the night, and on the following morning the pulse was 92, and temperature 100.4°. At the end of twenty-four hours the tampon was removed, and, as a precautionary measure, the uterus was washed out with carbolized water, and a pad of cotton saturated with carbolized oil was placed in the vagina. This treatment was continued night and morning until the fifth day after the operation, when the intra-uterine injections were discontinued, and vaginal injections alone were given. The condition of the patient during this time was excellent, not a single unfavorable symptom manifesting itself. At the end of three weeks she was sitting up. She had lost the yellow color of her skin. The cervix had partially united and reformed. The uterus was in good position, and there was entire freedom from discharge. At about this time menstruation appeared, and was not at all profuse, and the patient was permitted, as soon as the period was well over, to leave her room and begin moderate exercise.

During the next few weeks she felt so well and vigorous that it was impossible to keep her within bounds, and, probably as a result of her indiscretion, the next menstruation was quite profuse. Care during the following intermenstrual period, the use of hot injections, and astringent pads to support the uterus, which showed a tendency to press forward, were quite effectual, and the next menstruation was perfectly normal. Since that time the patient's progress toward complete recovery has been all that could be desired. There are now no local symptoms, and her general health is excellent.

It is believed that the remarkably favorable course of this case following the operation was largely due to the complete antiseptic precautions which were employed. Every manipulation, from the first examination, was made with a constant regard to the possibility of infection. The hands, instruments—everything, in fact, likely to come in contact with the patient—were thoroughly carbolyzed, and, previous to the examination, the vagina was thoroughly washed with carbolyzed water. On the day of the operation the air of the room was saturated for several hours with carbolyzed steam. Following the operation, the removal of the tampon, and the subsequent removal of the pledgets of carbolyzed cotton which were placed daily in the vagina, were carried on under a continuous stream of carbolyzed water. As a result, it is believed, of these efforts, there was not, from the beginning to the end of the treatment, the slightest odor to the vaginal discharge, nor one unfavorable symptom.

Taking into consideration the character and extensive attachment of the growth, and the impossibility of doing otherwise—even with the great care exercised—than leaving some shreds behind, which must necessarily be removed afterward by suppuration, together with the length of time required for the operation, and the severity of its performance, the case must be regarded as unusually successful, and as adding one more tribute to the value of complete antiseptic precautions.

The tumor removed weighed almost seven ounces. In character it corresponded to the soft fibroma, consisting of very vascular connective tissue—partly fibrillar and partly homogeneous—and containing minute spaces filled with serous and mucous fluid. It was this which gave the peculiar succulent character to the growth, and rendered it so friable. Owing to its vascularity, the whole mass was much less white and glistening than the more common form of uterine fibroma, and gave rise to a suspicion of its being sarcomatous. The entire absence of round cells, and the great sparsity of even the ordinary connective-tissue cells, decided a diagnosis which has been further justified by the subsequent history of the case.

ANIMAL VACCINATION.*

By FRANK P. FOSTER, M.D.

For nearly twelve years now animal vaccination has been carried on to a considerable extent in this country, and it may fairly be supposed that our experience with it ought to afford ample means of estimating it at its true worth. While it is unquestionably the case that it is accepted by the great mass of the profession, there are some, it appears, who still distrust it, a few who denounce it, and a still more limited number who, while habitually standing aloof from it, yet countenance and even advise an occasional resort to it.

On its first introduction into this country, in 1870,[†] the prospect of its acceptance by the profession was exceedingly slender, for American physicians were quite thoroughly imbued with what English writers had laid down concerning it—almost unmitigated

* Warlomont.—Animal vaccination. "Brit. Med. Jour.," 1877, i, p. 183.

Warlomont.—Remarks on the different methods of collecting, preserving, and employing animal vaccine. *Ibid.*, Sept. 25, 1880.

Braidwood.—The comparative merits of animal vaccination and arm-to-arm vaccination. "Edinb. Med. Jour.," Nov., 1878.

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Mégnin.—Caractères microscopiques et comparés des sérums du horse-pox, du cow-pox, et du vaccin humain. [Soc. de Biol., Paris.] "Gaz. Méd. de Paris," June 26, 1880.

Lemmer.—Ueber den Werth der animalen Vaccine im Vergleich zur humanisirten, mit besonderer Berücksichtigung des Pissin'schen Verfahrens. Eine kritische Studie. "Viertelj. f. gerichtl. Med. u. öffentl. Sanitätswesen," xxxvi, 2; "Centralbl. f. klin. Med.," July 1, 1882.

Hutchinson.—The propagation of syphilis by vaccination. "London Med. Record," i, 1873, p. 81.

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Johne.—Uebertragung der Actinomycoese durch Impfung. "Centralbl. f. d. med. Wissenschaft.," Nov. 27, 1880.

Lindsley.—Vaccination. (From the Report of the Secretary of the State Board of Health.) Hartford, 1882.

Hardaway. Essentials of vaccination. Chicago, 1882.

Foster.—Propositions in regard to animal vaccination. "Trans. of the New York Acad. of Med.," second series, vol. i (meeting of December 4, 1873).

[†] Reference is here had only to the present method, or what has been called "true" animal vaccination; that is to say, the propagation of the disease from a spontaneous case of cow-pox through animals of the bovine kind.

condemnation. The prevailing impression was, that the use of animal vaccine was oftener followed by failure than by success, and that, when by chance it did succeed, it was particularly prone to give rise to unpleasant results in the way of inflammatory accompaniments and sequelæ. However, somewhat against their judgment, the physicians of this country soon found themselves constrained to resort to the new practice, for the small-pox epidemic that straightway burst upon us found us ill prepared to meet it with vaccination carried out in the old way—the few infants that were vaccinated were utterly inadequate to supply the enormous amount of lymph required for the great number of secondary vaccinations that had to be done. Thus one of the alleged advantages of animal vaccination was established at the outset—that it furnished a safeguard against a dearth of material, or a “vaccine famine,” as it has been called. It must be added, too, that the community at large entertained a decided feeling in favor of animal vaccine—a curious reversal of the prejudice against which Jenner had to contend. In thousands of instances this preference on the part of the laity led to stubborn refusal to submit to vaccination with humanized virus.

Thus forced into practice, as it were, animal vaccination soon showed itself, to all but a few irreconcilables, free from the defects that had so generally been imputed to it. Men began to discover that animal lymph would “take,” and that, too, in a proportion of instances the like of which they had never before witnessed. They found, moreover, that the vaccinal lesions produced by it exemplified Jenner’s classical descriptions with a fidelity that to many was as a revelation. They observed, likewise, to their great comfort, that it was a rare and exceptional occurrence for these lesions to be accompanied or followed by any undue inflammatory or other morbid process. They saw, indeed, that the course of the pock was of longer duration than they had been accustomed to, and that the pock itself was larger; also that in adults it sometimes gave rise to a sharp constitutional reaction, lasting for a few hours. But this was all; it was manifest that there was absolutely no substantial foundation for the dread with which they had before been led to look upon the practice.

And thus the battle was won, for the time being—largely by the force of circumstances. Among those circumstances there was one that I have not yet mentioned, but yet one which, in my judgment, aided not a little. I refer to the fact that its management was in the hands of men whose previous training enabled them to conduct it with safety and success. For a considerable period Dr.

Martin* and myself furnished all the bovine virus of continuous calf-to-calf propagation from spontaneous cow-pox that was produced in this country. I believe this to have been the case, for I have no information to the contrary, and I am certainly safe in stating that there was, during the term referred to, no other considerable source of supply.

It happened that both Dr. Martin and myself had had several years' experience in matters pertaining to vaccination on a large scale; we had both had occasion to inform ourselves of all that was known and conjectured about the subject, from Jenner's time down; we were both accustomed to experimental investigation, and were duly mindful of the prejudice against animal vaccination, so that we were not likely to jump to conclusions or parade our results hastily; and, above all, our experience with the old stocks of humanized vaccine was such that we knew their capabilities thoroughly, and knew, therefore, with what the results of the new practice had to be compared—an advantage, it may be remarked, that those who have since taken up the study of the subject for the first time can scarcely have had in the majority of instances.

We entered upon our work with no predilection in favor of animal vaccination, but, rather, doubtfully, feeling that our position made it incumbent on us to investigate it, in view of the probability that we should soon be called upon to satisfy an unprecedented demand for virus—a demand that was likely to prove too great to be met by the resources then known to us. Fortunately, Dr. Martin received his supply of Beaugency lymph (which he at once shared with me after sufficient test experiments of his own) in time to allow us several months of investigation before the pandemic, then raging in Europe, overtook us. During that interval we satisfied ourselves that it was both safe and desirable to furnish bovine lymph to our correspondents. The next task was to demonstrate our results to the satisfaction of our professional brethren. Notwithstanding the favoring circumstances to which I have alluded, this proved no light work; without them we should probably have failed altogether, at least for the time being—so convinced were the great majority of the profession that no good could come of animal vaccination, and so diligently was that feeling kept alive by a few earnest exponents of the old practice, to deviate from which, even in the way of crowning Jenner with new laurels by

* To Dr. Henry A. Martin, of Boston, the profession is indebted for the actual introduction of the Beaugency stock of vaccine into this country, and, to a very great extent, for the proper establishment of the practice of animal vaccination in the sense referred to in this article.

perfecting his discovery, they seemed to look upon as faltering in their fealty to his memory. It is gratifying to be able to add that by far the greater number, even of this class of our early opponents, are now to be found ranged among the most efficient promoters of animal vaccination.

Our shores were soon honored by two French gentlemen, each of whom had a mission—to establish the cultivation of animal vaccine properly in this country. I am not aware that they tried to teach us anything, but they founded establishments of their own. They came, and they went back; and that is all that there is to be said of them. Before very long Dr. E. L. Griffin, of Fond du Lac, Wisconsin, entered zealously and intelligently upon the study of the subject. I do not know just when he began, but my correspondence with him dates back to the autumn of 1873. It is my opinion that his experiments have contributed not a little to place the practice on a secure footing in the esteem of the profession in his part of the country. For a considerable period few if any others than Dr. Martin, Dr. Griffin, and myself did continuous work in this field, although many essayed it in a casual way, stimulated probably by local outbreaks of small-pox. After it became obvious, however, that the practice had met with recognition, a great many men took it up, and at the present time “vaccine farmers,” as they have somewhat sarcastically been termed, are to be found in almost every State in the Union, and in some States, and even in some cities, quite a little knot of them.

But, *pari passu* with the multiplication of producers, the esteem in which animal vaccine was held by the profession has gradually but steadily declined. There are few indeed who now bring forward the old objections: that it does not protect against small-pox, that it is too severe in its action, and that it does not bear transportation well. All these have been disproved beyond cavil. The burden of the complaint now is, that it does not “take.” There is doubtless ample ground for this complaint. It must be that, on the whole, the animal vaccine used in this country at the present time does not prove so satisfactory as that in use ten years ago. Let us examine into the causes of this state of things.

In the first place, the diminished energy of animal vaccine may be more apparent than real. There is reason to believe that throughout the greater portion of the country, leaving the large centers of population out of account, the regular infant vaccination is done with humanized virus, the use of bovine lymph being resorted to only when an outbreak of small-pox makes it necessary to use a considerable quantity, more than can readily be obtained of the

humanized variety. Under such circumstances the vaccinations are almost all secondary, and their results do not compare favorably with the results of the secondary vaccinations done ten years ago, although done with the same stock. Those of the former period were such as to astonish the practitioner; those of the present time are unsatisfactory. Why should there be this difference? Let it be remembered that the secondary vaccinations of ten years ago were all upon persons whose previous vaccinations had been done with the old and feeble humanized virus then in use, persons who, consequently, were in a state of comparative receptivity. Those of the present day, on the other hand, are to a very great extent done upon those who were vaccinated ten years ago or so with the energetic stock that had then become generally diffused, and, as a logical sequence, are far more proof against a successful repetition of the operation than their predecessors were, or than they themselves were at the beginning of the last decade. This consideration, however, ought fairly to be offset by the fact that the use of tubes and crusts, quite prevalent in this country ten years ago, has been very largely given up.

We come back, then, to the broad fact that, on the whole, the animal vaccine now in use in this country is not so energetic as that which was supplied to the profession ten years ago. This fact has led some observers to infer that the Beaugency and other well-known stocks have degenerated. There is abundant evidence, however, that that conclusion is erroneous. My own experience and that of my fellow-producers with whom I am in correspondence show not the faintest trace of change in the results obtained. We meet with the same high percentage of successes as formerly, and the lesions produced are in every way typical. I refer, of course, to our general experience, for there are short periods now, as there always have been, of comparative inactivity. In the present state of our knowledge this is unavoidable in the cultivation of either the bovine or the humanized variety of vaccine. I venture the assertion that never have better results been attained in vaccination than during the past winter. I speak now of results that were known to me personally, by correspondence with those who were using lymph of my production. I have no reason to doubt that a like experience fell to the lot of those of my colleagues whom I have mentioned.

We must therefore give up the notion that there has been any degeneration of the stock of vaccine used by the older producers—namely, the Beaugency stock. The conclusion is inevitable that a great deal of the bovine virus used by the profession in this country during the last four or five years has not been of good quality.

Much of it has been produced by men who must have lacked the training necessary to enable them to steer clear of avoidable errors; some of it even by non-medical persons. These facts have been recognized and duly considered by a few, and certain remedies have been proposed—all of them, however, futile. Let us consider some of these proposed remedies.

Occasionally the statement is made, usually by those whose experience can not have been large, that liquid lymph stored in capillary glass tubes furnishes better results than dried lymph, and that, therefore, it ought to be more generally employed. There could be no greater error. I am aware that on the continent of Europe tubes are largely used, and that they are said to prove satisfactory. I believe, too, that it will some time prove practicable to store liquid lymph in such a way as to avoid the objections that now attach to it. But, taking things as they are, and with no attempt to account for the diversity of European and American experience on this point, it must be said that all qualified American observers agree in condemning bovine lymph stored in tubes. It is far less efficient than dried lymph. No doubt the reason, as suggested by M. Warlomont, lies in the difference between bovine and humanized lymph as regards their physical properties. According to that observer, the virulent granules of humanized lymph remain floating free when the lymph is preserved in the liquid form, whereas those of bovine lymph tend to separate speedily from the liquid and attach themselves to the walls of the tube—the consequence being that, when the liquid is expelled for use, most if not all of them remain so attached, and hence are not used at all. As to the addition of various supposed preservatives, I agree thoroughly with the late Dr. Seaton, that what we want is lymph, not mixtures. Moreover, it is not decomposition alone that we have to contend with; many a tube with perfectly sweet contents proves as sterile as so much water, and that, too, while dried lymph taken at the same time, and from the same poek, shows no appreciable deterioration.

Another suggestion is one that begs the whole question, amounting as it does to nothing more nor less than the proposal to use humanized virus as a rule, and resort to the bovine only occasionally, as a sort of renovator. Such a course would inevitably defeat the end in view. There are difficulties enough in the way of keeping up an animal vaccine service with reasonably uniform results even under continuous patronage; what would happen to him who should attempt this laborious and expensive work under a minimum of patronage, doled out only on rare occasions, may readily be imagined.

In some quarters the idea has been broached that the production of animal vaccine should be carried on by the Government, and that the commodity thus produced should be furnished to physicians gratuitously. In all its nakedness, or veiled by some slight show of modification, this remarkable proposal has actually been urged upon the Government by corporate bodies made up of physicians. If ever Congress seriously entertains such a proposition, it will be only when the nation has virtually ceased to be a republic. More than one industry has been crippled by legislation, it is true, but never, in a free country, by any such direct thrust as the assumption by the Government of an attitude of competition with any class of its citizens. The Government is hardly likely to establish soup-kitchens by way of improving the quality of our provisions, and the medical profession is not yet a congregation of mendicants. What the Government can not do directly it has no right to do through the medium of any public sanitary or other organization. No doubt it has a perfect right to engage in the production of any article required for its own use, also to dispose, by public sale, of any residue of such article that may remain in excess of its own wants, provided the over-production is accidental; but for it to proceed systematically and with premeditation to produce an article with a view to selling it or furnishing it gratuitously would be to knock the foundation from under our liberty. This view of the right and wrong of the thing has been summarily dealt with, to be sure, by one of the States, and by legislative sanction the Board of Health of a city in that State is now engaged continuously, and has been for several years past, in producing vaccine—not alone for its own use, but for sale. Not only is this course on the part of that Board of Health a gross violation of the principles that underlie our system of government, but it shows, incidentally, that the assumption of the work of producing vaccine by the State, or by any organization acting by authority of the State, is not by any means likely to improve the vaccine service, even if it were not open to the weighty objections already mentioned—for who will pretend that the vaccine furnished by that board has been shown to be superior to what others have produced and are still producing? For the State to monopolize the production of vaccine—and the step referred to is of the very essence of monopoly—would therefore not only be hostile to the genius of our institutions, but it would not even result in that delusive benefit that so often cloaks a stab at true progress.

Governmental *supervision*, however, is a far different thing. By all means, let us have it. Let the Government see to it that no

objectionable vaccine is furnished by any producer. Let competent persons be authorized and instructed to observe, criticise, and, within proper limits, control the methods followed by producers and purveyors of vaccine. It is a question whether this had better be done by the national Government or by the several States; doubtless much might be said in favor of the one as well as of the other. Such authorized and responsible supervision should not be confined to the mere production of vaccine, but it should extend to the methods of storing and handling pursued by druggists and others, who act as retail sellers of the article. Such a system might be productive of great benefit to the medical profession and to the whole community, and would work no injury to any individual fit to be engaged in so important a business.

But it may be a long time before any such plan is put into action. Meanwhile the profession have it in their own power to abate many of the abuses that have sprung up about this matter of supplying vaccine. It seems to me that such an end may be served by acting in accordance with the following considerations:

1. Those who prefer animal vaccine under any circumstances should use it under all ordinary circumstances. By so doing, its production by proper methods is favored, since a fair amount of pecuniary support is necessary to enable producers to meet the expense involved in those methods. On the other hand, those who prefer humanized vaccine should, whenever they think proper to use the animal virus, bear in mind that success with the latter is to a great degree dependent upon certain details in the mode of its employment—notably, that it should actually be transferred to the abrasion, which transfer, on account of the great tenacity with which it clings to the slip, is not so rapidly accomplished as that of humanized lymph under like conditions.

2. As at present furnished, all forms of animal vaccine, except dried lymph, are little better than worthless; therefore, no other form than the latter should be used.

3. It has come to be too common a practice for physicians to order vaccine from any apothecary they may chance to deal with, leaving him to procure them anything in the shape of vaccine that he can make the most profit on. It is by all means advisable always to obtain one's supply directly from the producer or his accredited representative. So-called "companies," as well as tradesmen who employ anonymous producers, should be avoided; the practitioner should make it a point to know who the man is that actually does the work of producing the virus he is to use. It may be added that the choice of material, as between different men's productions,

should not be governed in the slightest degree by the difference in their prices. A safe gun can not be had at the price of pot-metal.

If the foregoing considerations are founded in truth, it is the plain duty of the profession to give heed to them; if they are disregarded, any disappointment that may result can not fairly be charged to animal vaccination *per se*. Believing them to represent the truth, and feeling confident that physicians need only have their attention drawn to them to make them set their faces against the loose practices that are now going on in the matter of the production and supply of vaccine, I can not but view the outlook for animal vaccination in this country as a bright one.

Editorials.

THE JOURNAL TO BE PUBLISHED WEEKLY.

BEGINNING with the next volume, dating from the first Saturday in January, 1883, the "New York Medical Journal" will be published weekly instead of monthly. We have long felt that it was only a question of time when we should find ourselves obliged to take this step, in order to give our readers the benefit of a great deal of matter which, it has seemed to us, ought to be laid before them, and that, too, promptly, but for which we have been unable to find space within our present limits. Our readers will remember that at different times we have increased the proportion of small type used in the journal, and have added to the size of the page. Even with these changes, however, we have been compelled to omit the publication of much that we felt ought to find a place in our pages. In the weekly issue we shall be able to remedy all this, we trust.

In its new form the journal will have large double-columned pages, affording space for certain features that now seldom appear in it, while its present departments will be continued. It has been only now and then, for instance, that we have been able to find space for the publication of *Lectures*, although we have been quite aware that well-selected lectures, both didactic and clinical, were among the most acceptable reading that a medical journal could give. The frequent publication of material of this sort will be

made a prominent feature in the weekly, and pains will be taken to choose such as will prove valuable to the reader. At the same time care will be taken not to lessen the variety and value of the more formal articles known as *Original Communications*. In accepting articles of that class, regard will be had more particularly to the wants of the general practitioner, and all the special branches of medicine will be duly represented.

In the matter of *Book Notices*, publishing more frequently, we shall be able in great measure to avoid the delays that circumstances heretofore have sometimes made necessary. As it is now, a great deal of contemporary literature is kindly sent to us in the reasonable expectation that it will be noticed in our pages—and yet we are obliged to pass it by. Much of this matter is of such a nature that, if noticed at all, it should be noticed without delay. The columns of the weekly will enable us to do justice to the literature of the day, and to keep our readers fully and promptly informed of its scope and character.

Clinical Reports—another department that we have had to omit almost continuously—will also be a regular feature of the weekly journal, embracing clinical records from the various hospitals and clinics, not only of New York, but of various other cities, together with clinical contributions from private practice.

The *Editorial Articles* will be more numerous, and we shall be able to give more timely consideration to passing events. It is in this department especially that frequency of issue adds to the interest of a journal.

Society Proceedings will be given more promptly than now, and those of a greater number of societies will figure. At the same time we shall not feel bound to give the proceedings of all the meetings of any society, or even all those of any one meeting, but shall select for publication only such as we think profitable to our readers.

The *Reports on the Progress of Medicine*—a feature of the journal which we have reason to think is highly valued by our readers—will not be curtailed in their scope. On the contrary, an additional quarterly report will be published on sanitary science. All the reports will be given quarterly, so that upon each of the departments of medicine now covered by them (anatomy and physiology; materia medica, therapeutics, and toxicology; general medicine; surgery; orthopaedic surgery and diseases of the joints; obstetrics and gynaecology; ophthalmology and otology; cutaneous and venereal diseases; and psychological medicine), as well as the new topic of public health, a report will appear four times a year.

They will be given in a form which, we think, will prove more attractive to our readers than at present—the change being that the bibliography will be printed at the end of each report, the abstracts being headed with their own proper titles.

Under the head of *Miscellany* we shall include matters of news, correspondence, etc.—the varied items that one expects to find in a weekly paper.

In taking upon themselves the additional expense and labor involved in all this, the publishers and the editor are sustained by a feeling of confidence that the profession will find the journal in its new form worthy not only of a continuance, but of an extension, of the satisfaction with which, it is believed, they have heretofore looked upon it.

CHEAP VACCINATION.

SPECIFIC instances are by no means lacking to illustrate the penny-wise and pound-foolish policy, to call it by no harsher term, to which men seem prone when they find themselves called upon to manage public vaccination on a large scale. Indeed, such instances are so numerous as to seem to constitute the rule. It may be well, however, to call our readers' attention to a very recent example, which we find in the following narrative, published in the "New York Tribune" for October 20th:

When the small-pox became prevalent in Paterson, N. J., some weeks ago, the health officials of the city, among other measures of safety, took steps to secure the free vaccination of all who might apply. They, in common with several of the Paterson physicians, obtained a supply of quills from a man named Barney, who keeps a hotel in West Street, this city, and has a farm at Clifton, N. J. Barney had at one time carried on the business of supplying vaccine matter, which was prepared under the direction of the Health Department of this city. The authorities at Paterson supposed that the vaccine matter from Barney's Clifton farm still had the recommendation of the New York Health Department. When they first applied to Barney he had no vaccine quills, but within two days he supplied a large number. This was regarded by the Paterson physicians as singular, and their suspicions were increased when they found that the percentage of "takings" among vaccinations made with Barney's quills was very small. The Passaic County District Medical Society decided to take action in the matter, and began an investigation. A letter from the Health Department of this city was received which stated that Barney had no connection now with that department. This communication was laid before the Medical Society at a meeting on last Tuesday night, and a committee were appointed to confer with the health officers of Paterson. This committee on Wednesday night met Mayor Gillmor, City Physicians Hurd and Myers, Health Inspector Newton, and the Committee on Health of the Board of Aldermen. The story told by the medical deputation at this meeting created a sensation when made public yesterday.

Dr. Rogers asserted that the quills used by the city vaccinators were either spurious or very inferior in quality. He recommended that the city authorities begin anew the work of public vaccination. Dr. E. J. Marsh, who, with Dr. George H. Balleray, was City Physician of Paterson about ten years ago, said that he knew Barney's quills were bad; he also urged a re-vaccination. Dr. Balleray stated that he had vaccinated two hundred persons with the Barney quills, about one hundred and fifty of whom were children. Eighty-five per cent. of these vaccinations had failed to produce vesicles. The doctor then obtained a supply of Martin's quills, and seventy-five per cent. of the inoculations with these were successful.

Health Inspector Newton asserted that he had been informed in this city that the quills from the Clifton farm were "no good," but, finding that a supply of them had been ordered, he was compelled to use them and await results. Dr. Newton has had charge of the public vaccinations. Alderman Quin, who is also a physician of repute and a member of the Health Committee, said that in his private practice he had found a number of Barney's quills worthless, and had thrown them away. Inspector Newton complained that a number of mill-owners had had their employees vaccinated by drug-clerks because they did it cheaply, although many of them did not know a vesicle when they saw one.

The outlook for the health of Paterson is somewhat gloomy. Cases of small-pox are again on the increase; there is no regular Board of Health or effective municipal law on sanitary subjects; the city hospital buildings are hastily erected sheds, where patients would perish in winter cold or be soaked in a heavy rain; there is a lack of public confidence in the physician in charge, and the wholesale vaccination of the public turns out to have been a farce. There is a strong public feeling in favor of a radical change in the sanitary department of the city government. There are a number of bills from Barney for vaccine quills which have not been paid, and the city will undoubtedly refuse to pay them. A case of small-pox was reported yesterday at No. 41 Cross Street. The neighborhood is in a filthy condition.

Now, we know nothing about the "man named Barney," but it is evident that, however much he may have been at fault in this matter, the people of Paterson ought to feel some interest in the fact that their sanitary officials could, under any circumstances, bring themselves to such a pitch of parsimony as to obtain for public vaccination material from an obscure source. These officials should not be allowed to make a scapegoat of Barney, or to shield themselves behind the pretense that they thought they were really dealing with the New York Board of Health. Could any one in his senses imagine for an instant that so important a feature of that board's work as the production and furnishing of vaccine was intrusted to a man who kept a hotel in West Street? We can not suppose that the officials in question labored under any such impression. There can be little doubt that they simply did what has so often been done under like circumstances—got what they thought would cost the least. It seems likely that the work of vaccination in Paterson will have to be done over again—this time, thanks to

the pressure of public opinion, with material for which something like an adequate price will have to be paid, and for the genuineness and efficiency of which there will be a respectable guarantee. We trust the lesson will not be lost to those who in the future may find themselves tempted to save a few dollars at the risk of bad work.

The people of Paterson may be thankful that nothing worse than failure occurred as the result of the course pursued. There is no doubt that many of the dangerous and unpleasant complications and sequelæ that are reported from time to time as having been observed in public vaccination—occurrences that keep the anti-vaccination prejudice alive—are directly owing to just the mistaken policy that was followed in this instance.

Reviews and Literary Notes.

A System of Human Anatomy, including its Medical and Surgical Relations. By HARRISON ALLEN, M. D., Professor of Physiology in the University of Pennsylvania, etc. Illustrated with three hundred and eighty figures on one hundred and nine plates, many of which are beautifully colored. The drawings by Hermann Faber, from dissections by the author. Also, upward of two hundred and fifty woodcuts in the text. Section I—Histology. By E. O. Shakespeare, M. D., Ophthalmologist to the Philadelphia Hospital. Section II—Bones and Joints. Philadelphia: Henry C. Lea's Son & Co., 1882. 4to, pp. 96; iv-97 to 241, inclusive. Portfolio covers. [Price of each section, \$3.50.]

THIS work, which has been announced as in press for many months, is published in parts, each inclosed in a separate portfolio. It is the fruit of years of patient toil on the part of its author, and bids fair to be, when completed, the most elaborate work on anatomy yet issued in this country. If the subsequent numbers equal those already issued, it seems destined to take a high rank as a work of reference.

Part I treats of Histology, and is written by Dr. E. O. Shakespeare. Part II treats of Osteology and Arthrology, and forms the beginning of Professor Allen's individual contribution. The two will therefore be noticed separately.

In Part I we find constant evidence of the painstaking researches of its accomplished author. Dr. Shakespeare is well known as a microscopist, and his contribution to this work is a most valuable addition. The litho-

graphic plates are beautifully executed, and deserve unqualified praise, although most of them are not original. In the main, little can be found in the text to merit unfavorable criticism. The descriptions are clear, tersely expressed, and well up to date.

Part II brings us more directly into relation with the real scope and character of the work. The author has endeavored to combine descriptive and applied anatomy, and thus to meet a want which is daily becoming recognized by students as well as by the profession at large. This idea is not original with the author, as the same object has been previously aimed at by some authors in Europe, in special surgical departments, and, in the anatomical line, of late by one in this country; but by no one else has a complete work upon all branches of anatomical study been announced upon this plan. The idea is certainly a good one; in most instances the author has performed his allotted task with credit to himself, and it will undoubtedly be of great benefit to those who will read his work. After a careful perusal of the various sections of the text, which comprise the practical hints suggested by the parts under consideration, for the purpose of comparing the incorporated suggestions with those of other authors in the same department, it strikes the reviewer that the physiological deductions have been either omitted or allowed to become subsidiary, when incorporated, to hints of a purely surgical or medical character. These may be the more important to the practitioner in active practice, and hence the great desideratum in the mind of the author; but to the student, it strikes us, many points which might be suggested by a discussion of the general plan of construction of the bony framework would be of great value as aids in attempts to fix facts in the memory, and would not be out of place in a work designed for their use, as the preface states that this one is. As examples of this want, the "remarks" upon the bones forming the base of the skull seem to be deficient in this particular, although replete with practical information for the surgeon.

We confess some surprise that the author prefers "scapulas" to *scapulae* (page 97); that no systematic classification of bony prominences and depressions is attempted in order to show the beginner the derivation of many of the adjectives commonly applied to them, and the grounds for their use or selection; that the short bones are made to include the metacarpal and metatarsal bones, and the clavicles (page 98); that the order of enumeration of the bones of the skull appears to show a lack of method, which is in marked contrast to the system shown elsewhere throughout the entire volume; and that the tabular form of arrangement is not employed oftener than it is for the benefit of students, who are generally over-burdened with anatomical facts which they are only too glad to systematize in their memories. We have noticed occasional instances of looseness of expression. One of the most striking of these occurs on the first page of Part II (page 97). It would seem to allow the reader to infer that the four mesial bones of the cranium are not bones of the skull.

These are, however, but minor defects; and what book in its first edition does not have them? The work, as a whole, shows a great amount of research, and reflects credit upon its author. Its pages teem with well-culled facts which can not be found in the ordinary anatomical treatises. To the more advanced students in anatomy, as well as to the profession at large, it will prove a valuable companion, and one often referred to.

Regarding the illustrations, such unstinted praise can not be accorded. They are, for the most part, accurate and of large size, but they fail as a whole to impress the eye with their beauty, chiefly on account of the coarseness and wide separation of the lines used in the shading. In contrast with the carefully finished plates of bones found in Holden's work, and even in the last edition of Wilson, they seem coarse and sketchy, and are inferior to many of the woodcuts of Gray. Now that the art of photo-engraving has reached its present state of perfection, the most elaborately finished drawing can be duplicated as cheaply as a coarse one, and at a cost far below that of an ordinary woodcut, and there seems to be less excuse than ever before for a lack of artistic effect in illustration. It is not to be inferred, however, that all of the drawings merit this criticism, as some of them are worthy of the text which they illustrate, but it is to be regretted, we think, that the artistic work is not in general of so high a finish as the undertaking deserves.

The plan of printing upon each bone the names of the chief points of interest referred to in the text has been followed, after the style of Gray and some other English and German authors. We are aware that this is the popular way of disfiguring a drawing in order to save the reader the necessity of studying the details by reference to numerals, as employed in all the fine steel engravings and woodcuts of the French; but we believe that students in particular are rendered superficial thereby, since all of the printing upon the plates is seldom if ever read, and the eye does not grasp the gross appearance of the bone so perfectly as it would if the picture were free from a mass of lettering running over it in all directions. This view is in opposition to the popular opinion, we admit; but as one grows older in anatomical study does not the taste change, and do not all such labor-saving devices in cuts, made at the expense of artistic effect, become distasteful? In many instances in this work the cuts are so covered with lettering as to give the whole of a bone a blurred effect (see Plates XVI, fig. 6; XIX, fig. 2; XX, figs. 3 and 6; XXIV, fig. 1), which is intensified by the coarse line-shading above referred to. We do not think that Plate XXII is a faithful representation of a typical skull in profile, and it might be redrawn with advantage. Among the drawings which particularly merit commendation are XV, of the vertebral column; XVII, of the sphenoid bone; XXIII, of the base of the skull; XXIV, more for the originality of the section than for its artistic effect; XXV, of the thorax, sternum, and hyoid bone; and some of the joint illustrations. All in Part I (written by Dr. Shakespeare) are lithographic, and are exceedingly creditable.

The omission of color from the outlines of the muscular origins and insertions of each bone, as found in Holden and the latest edition of Wilson, seems to us a mistake. Color certainly adds to the beauty of plates, and the system of using one color for the outline of muscular insertion and another for that of muscular origin helps to fix the facts in the memory by means of the sense of sight far more quickly than descriptive text alone.

It should be said, in justice to Mr. Faber, the artist, that in subsequent parts his drawings will probably show to better advantage, as the amount of lettering required upon the bones (especially those of the skull) must of necessity detract from the artistic effect of a drawing to a greater degree than in the other departments of anatomy.

The plates designed to illustrate the ligaments are open to the objection, which all drawings in black and white must afford, that the absence of color renders the outlines of the ligaments indistinct except to those who are thoroughly familiar with them, or to close students. They fail to give the eye, at the first glance, a clear conception of their outline. From quite an extended experience in anatomical drawing, it strikes the reviewer that the desired object can be brought about (in case color is dispensed with) by lightening the ligaments and intensifying the shading of the adjacent bones—thus giving the ligaments a prominent outline against a darker background. No plate, however, without color will ever be entirely satisfactory in the department of arthrology, no matter how carefully drawn for the full effect of shade and shadow.

It is because the work under consideration is a good book, and one that will make an enduring reputation for its author, that these criticisms are made. It has fallen to the lot of the fortunate publishers to be able to bring out the best anatomy (if completed in its present style) yet produced in America, and one which will prove much more useful to the general practitioner than the foreign works now accepted as standard. It will therefore be for their interest, as well as an act of justice to its able author, to spare neither time nor expense in preparing the illustrations for the parts yet to be issued.

The style of binding (in paper) is not well adapted for handling. Already the volumes sent to us for review have fully one half of the pages loose, in spite of considerable care in holding the book while perusing its pages. The large size of the page tends, from its weight, to make the stitches cut through the leaves. It is evidently intended, however, that the work shall be rebound, as the leaves are left uncut. We await the subsequent numbers with pleasant anticipations.

Minute Structure of the Central Nervous System of certain Reptiles and Batrachians of America. Illustrated by permanent photo-micrographs. By JOHN J. MASON, M.D. Series A. Newport: 1879-1882.

THIS is a work of unusual scope and interest, both for its design and the remarkable finish and elegance of its execution. In this respect it is

superior to anything of the kind which has appeared, at least in this country, unless it be the photographs of the human medulla oblongata, from the New York State Lunatic Asylum, and Delafield's "Studies in Pathological Anatomy." It is a series of one hundred and thirteen photo-micrographs, printed by the artotype process, from sections of the spinal cord, medulla, cerebellum, optic lobes, and cerebrum of nineteen different species of saurians, ophidians, chelonians, and batrachians. The list includes specimens from the alligator, the chameleon, the horned toad, the lizard, the moccasin, the rattlesnake, and other serpents; the terrapin, the box-turtle, the snapping-turtle, the salamander, the Alleghany hell-bender, the siren, the spotted frog, and the bull-frog. With few exceptions, the nervous centers employed were hardened first in alcohol, then in a solution of potassium bichromate, and the sections were stained with carmine and mounted in Canada balsam, the preparation of the sections, and the negatives from which the artotypes were taken, being in all cases the author's own work.

The artotype impressions must certainly be regarded as a great success. This process, as well as the autotype, heliotype, etc., all of which, we believe, are practically the same, has some advantages over that of the ordinary photograph on silvered paper. The artotype impressions can be printed directly on plate paper, and the almost unavoidable distortion of the page, usually noticeable with mounted silver prints, is avoided; and, furthermore, the pictures, printed with carbon ink, are of course as permanent as steel engravings. The artotype is also an exact reproduction of the negative in form and size, while the print on silvered paper, when mounted after prolonged washing, is nearly always abnormally enlarged in one direction, owing to the swelling of the fibers. Perhaps neither the artotype, nor any other of the transfer processes now in vogue, can quite compete, for delicacy and richness of tone, with the best silver print; but they have been greatly improved in that respect within the last few years, and the present volume leaves little or nothing to be desired in the quality of the work.

As the author observes, the best photo-micrographs are those taken under moderate amplifying powers; that is, with an objective of not less than one half-inch focal distance. The most successful of that kind in the present series are the transverse sections of the spinal cord of the alligator and of the gopher-turtle, Plates II and XVI (2 inches and 1 inch); the infero-lateral column and the inferior horn of gray matter of the gopher-turtle, Plate XVIII ($\frac{1}{2}$ inch); four sections of the spinal cord of the terrapin, Plate XIX (1 inch); the spinal cord of the snapping-turtle, the cervical and lumbar enlargements, Plates XXII and XXIII (2 inches); and transverse sections through the optic lobes of the Gila monster, horned toad, chameleon, water snake, rattlesnake, gopher-snake, and snapping-turtle, Plates LXX-LXXVII ($2\frac{1}{2}$ inches). Of the pictures showing greater amplification, the best are the nerve cells of origin of the motor root of the trigeminus, and those in the raphé of the medulla oblongata, both from the alligator, Plates XLVIII and CII ($\frac{4}{10}$ inch); and, lastly, the nerve cells and

nuclei in the lumbar enlargement of the spinal cord, Plate CIX ($\frac{1}{2}$ inch), where the multipolar cells are finely delineated, delicate, distinct, and characteristic, though they are magnified in some cases to fully three quarters of an inch, apparent size, and their nuclei, equally distinct, measure from one fifth to one third of an inch in diameter.

The letterpress in Dr. Mason's book is mainly descriptive of the plates, and calls attention to various points of resemblance and dissimilarity between homologous parts in animals of different species. There are tables giving the comparative thickness of the anterior and posterior regions of the spinal cord, in connection with the development of the tail as a muscular organ; and the comparative areas of gray matter in cross sections of the cervical and lumbar enlargements, in connection with the size and efficiency of the anterior and posterior limbs. In the appendix, the author adduces further evidence in support of an anatomical law which he formulated a year or two ago, to this effect: viz., that "The nuclei of the so-called motor cells of the central nervous system have, in the same individual, average diameters which are proportional to the power of the related muscles." He very judiciously disclaims any intention of insisting upon the theory that the motor or sensory function of a nerve cell can be determined from its size, or that the nucleus has any special anatomical importance as distinguished from the cell body. But he shows that the measurement of so irregularly shaped a figure as that of a multipolar nerve cell must always be uncertain, while the regular form and distinct outline of the nucleus admit of much more accurate determination; and that the cell nuclei are therefore better adapted for measurement, as standards of comparison, than the cell bodies. It can not be denied that this is a very reasonable statement; and it is not unlikely, as the author suggests, that comparative measurements of the nuclei may yet give essential aid in the future understanding of their function.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery, by Authors of Various Nations. Edited by JOHN ASHHURST, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. In six volumes. Vol. I. New York: William Wood & Co., 1881. Pp. xl-717.

So far as we can judge from this volume, Dr. Ashhurst's collection of treatises on surgery promises to form a work of great value. The articles are somewhat uneven in merit, but that is inevitable in a variorum work.

The volume opens with an article on the Pathology of Inflammation, by Professor Stricker, of Vienna. It is admirably clear and instructive, and the translation, by Dr. Alfred Meyer, of New York, is unusually satisfactory. The article occupies sixty-three pages.

The subject of Inflammation is further considered, in the next article, by Professor Van Buren, of New York, who furnishes ninety-five pages—

chiefly on the etiology and the clinical features of inflammation in its several forms. These pages are distinguished by their thoroughly practical character, as well as by the graceful and scholarly style that marks all of Dr. Van Buren's writings.

The third article, on Erysipelas, consists of about forty pages, contributed by Professor Stillé, of Philadelphia. This, too, is an exceedingly creditable article. It is followed by one on Pyæmia and Allied Conditions, of twelve pages, by Professor Delafield, of New York, who, considering the brief space within which he deals with that great subject, may fairly be said to have presented it most satisfactorily. The editor interpolates a note expressive of his dissent from Dr. Delafield's view that all treatment of pyæmia is futile, and maintains that something may be done to avert the fatal issue in subacute and chronic cases.

Dr. W. S. Forbes, of Philadelphia, follows with an article of fifteen pages, on Rabies, Glanders, and Malignant Pustule. The brevity of this article renders it somewhat unsatisfactory, especially the section devoted to malignant pustule, a disease of absorbing interest at the present time.

Mr. Henry Trentham Butlin, of London, contributes the next article, of nineteen pages, on Scrofula and Tubercle. Mr. Butlin puts the reader in possession of a very fair synopsis of our present knowledge of these affections, and shows himself to be familiar with their literature, and to have digested it.

The next article, on Rickets, is by Professor J. Lewis Smith, of New York, who, in the twenty-five pages allotted to him, treats of the subject with the thoroughness and clearness that all who are familiar with his excellent treatise on Diseases of Children would expect. Then comes an article on Scurvy, by Surgeon-General Wales, of the navy, a scholarly contribution of some twenty-seven pages.

Professor Verneuil, of Paris, furnishes the article on the Reciprocal Effects of Constitutional Conditions and Injuries, occupying twenty-nine pages. The translator, whose name we do not find mentioned, has done his work well. M. Verneuil has written a good deal on the subject of constitutional conditions in connection with injuries and surgical operations, especially (of late) on malaria. We are somewhat surprised, therefore, to find that in the present article he devotes scarcely more than a page to malaria. Like all the author's writings, however, the article is ingenious and highly suggestive.

A very carefully written article on the General Principles of Surgical Diagnosis follows, by Professor Agnew, of Philadelphia, embracing nineteen pages. Mr. Mansell-Moullin, of London, in the twenty-two pages on Shock, gives, it seems to us, one of the most thoughtful and valuable articles in the volume. It is followed by one on Traumatic Delirium and Delirium Tremens, of twenty-four pages, by Dr. William Hunt, of Philadelphia, which, but for the flight of fancy with which the author expresses his appreciation of the word "wandering," is very satisfactory.

The article on Anæsthetics and Anæsthesia, by Professor Lyman, of Chicago, occupying thirty-three pages, is so comprehensive, and in every way so praiseworthy, that we wonder that in the succeeding article, on Operative Surgery in General, the author, Dr. John H. Brinton, of Philadelphia, should have thought fit to say so much on the same subject. Dr. Brinton's article, in other respects a very readable one, consists of forty-three pages.

Dr. Charles T. Hunter, of Philadelphia, devotes fifty-two pages to the details of Minor Surgery, including some things that we should scarcely class as surgical, while we fail to find any description of the Listerian system of dressing wounds—perhaps because a brief *résumé* of the method had been given in Dr. Delafield's article on pyæmia. The novice can get a good deal of information from Dr. Hunter's article, but we consider it decidedly below the general standard of the volume.

Professor Johnson, of Baltimore, gives as good a sketch of Plastic Surgery, it seems to us, as could well be got into nineteen pages. The article, well-constructed and valuable as it is, treats of the subject only in a general way, and we question the wisdom of separating it from what will doubtless be said of the particular plastic operations in a succeeding volume.

The volume closes with an admirable article of one hundred and fifty-two pages on Amputations, by the editor, Professor Ashhurst, of Philadelphia.

The book is well printed, but the cuts strike us as not being up to the text, and we do not like the plan of beginning every article on a right-hand page, leaving the opposite page blank in case the preceding article falls short of it. The chromo-lithographs are well done. The pages are large, and there is therefore a great deal of matter in the volume. Smaller volumes, and more of them, we should prefer, as the work is manifestly destined to be used more as a text-book than for reference.

Gerichtsärztliche Praxis. Vierzig gerichtsarztliche Gutachten erstattet von Dr. HERMANN FRIEDBERG, Professor der Staatsarzneikunde an der Universität und Kreisphysikus in Breslau. Mit einem Anhang über die Verletzung der Kopfschlagader bei Erhängten und Erdrosselten und über ein neues Zeichen des Erwürgungsversuches. Wien und Leipzig: Urban & Schwarzenberg, 1881. Pp. xii-452.

A RECORD of typical medico-legal cases, detailing post-mortem appearances, judicial examinations, and the expert opinions based thereon, would demand for a satisfactory review an analysis of almost every separate example, covering the various fields of forensic medicine, from the much argued "railway spine" through all the range of malpractice, murder, and mental responsibility. We are, therefore, confined by limitations of space to a general commendation of a book which will prove of more service to the

reader than many formal treatises on medical jurisprudence. Keen powers of observation and thorough pathological knowledge are displayed throughout, with much ingenuity, applied in several instances to the elucidation of particularly perplexing problems. As most of our readers are doubtless aware, the German method of investigating suspicious deaths widely and wisely differs from our inefficient and bungling "crown's quest," with its often perfunctory autopsies and uninformed juries. There, by order of a court, an official expert makes his necropsy without previous knowledge of the circumstances of the case, commonly without even knowing the name of the deceased, and reports his post-mortem diagnosis. Being subsequently informed by the evidence taken before a magistrate, he completes his opinion. This method, which insures impartiality, must strike even the average intelligent jurymen as vastly superior to the tedious and puzzling process of engaging on either side of a criminal case a half-dozen or more of *ex parte*, conflicting, self-constituted experts; and must commend itself to all except quibbling "counsel for the defense," whose object is to defeat the ends of justice. But the successful operation of such a system necessarily depends upon the unimpeachable qualifications of the medical officer to whom such an important duty is assigned; and in this respect the book before us vouches for its author's well-earned reputation as one of the most eminent of European medical jurists.

The Incidental Effects of Drugs: a Pharmacological and Clinical Handbook. By Dr. L. LEWIN, Assistant at the Pharmacological Institute of the University of Berlin. Translated by W. T. ALEXANDER, M. D. New York: William Wood & Co., 1882. Pp. 239.

THE subject of the incidental effects of drugs is a most important and interesting one. The medical student and the young practitioner are often at a loss to know how to explain certain phenomena which occur during the administration of drugs. The text-books pay much attention to the ordinary and usual effects of drugs, but rarely even refer to their unusual effects. The author of this work has done an excellent service in gathering together from many sources, especially medical journals, some important facts in regard to the incidental effects of drugs, and grouping them together. Although most of the facts may be familiar to the majority of readers, some of them will be entirely new to a large number. The introduction is of itself quite a valuable contribution to medical literature, and shows the writer to be a thinker as well as an observer. Such a book comes at the right time. How often we recognize the fact that expected effects, even from the ordinary drugs, do not occur! The fact is being accepted more and more every day that the effects of large doses and small ones differ very widely. As a single example, with which all physicians are familiar, we need but mention the anti-emetic effects of minute doses of ipecac, and the decided emetic effects of large doses.

The book is one which might be read with much benefit by older practitioners, as well as students and younger men. Some facts have escaped the attention of the author, such as the unusual effects of some of the preparations of iron, to which no reference is made. Under the head of quinine, the cathartic effects are not referred to. Many others might be named. But new facts are coming to light constantly, and in a new edition probably many more will appear. Indeed, so much new light is being constantly thrown on the subject that a new edition might with benefit be issued every few years.

The translator has accomplished his work well, and has done good service in placing the book within reach of those who can not read it in the original.

De la Lithotritie Rapide. Par le Dr. RELIQUET, Lauréat de l'Institut, etc. Paris: Adrien Delahaye et Émile Lecrosnier, 1882. Pp. 79.

La Lithotritie doit être faite sans Traumatisme. Par le Dr. RELIQUET, Lauréat de l'Institut. Paris: A. Delahaye et E. Lecrosnier, 1882. [Extrait de la "Gazette des Hôpitaux."]

As to the general principles by which the operation of lithotrity should be governed, among good lithotritists, there is but little difference of opinion; with regard to the best means of carrying out these principles there is less unanimity. "*Tuto, cito, et jucunde*" would be interpreted by one to mean repeated sittings, each of as short duration as possible; while to another the interpretation would run—completion of the operation at one sitting, prolonged as much as is necessary. Both are equally sensible of the dangers of traumatism. By one they are chiefly apprehended from the presence of sharp fragments of stone left in the bladder; by the other from injury to the bladder and urethra incident to the excessive use of instruments.

The merits of Bigelow's operation consist less in originality of invention than in ingenuity of adaptation. Bigelow did not invent "rapid lithotrity," and all his appliances are but modifications of old ones. His originality mainly consisted in making the operation far more general than was before conceived to be possible. Herein lies the chief value of Bigelow's contributions. Though the bladder's tolerance of instruments was a fact well known before, he has verified and demonstrated it in a way that has caused rapid lithotrity to be very greatly extended in its range of application—so much so as to mark a new era in the history of lithotrity—an era that will always be associated with Bigelow's name, even though his peculiar methods and instruments be entirely discarded. For he, more than any other, has made rapid lithotrity practicable.

Though Reliquet professes himself a disciple of Civiale, he is perhaps in no less degree a disciple of Bigelow, and that notwithstanding the fact that to many of the most essential features of Bigelow's operation he is

strongly opposed. The *raison d'être* of the two brochures before us is mainly to show that "rapid lithotrity" can be better performed by the instruments and methods of Reliquet than by those of Bigelow. Recognizing the important aspect which the "rapid" operation has assumed, the writer is eager to enter his own products for competition in the new field.

The general objection which Reliquet makes to the operation of Bigelow is that it exposes the urethra and bladder too much to dangers of traumatism. It must be admitted that these dangers, so far as any evidence which the writer gives is concerned, are purely theoretical. It is alleged that the large size of the instruments used *must* injure the urethra, but that they *do* injure it is not shown. Aspiration is objected to except in cases of atonied bladder, where the expulsive power is lost. The chief reasons given are: First, that it is unnecessary when the bladder acts normally, evacuation being more easily and quickly effected by means of the simple catheter. Second, the action of the aspirator necessitates the reinjection into the bladder of many fine particles in suspension that have already been withdrawn. It is claimed that, if during injection of water by the aspirator the bladder suddenly contracts, escape by the catheter being prevented, particles of sand will be forced between the catheter and the urethra, and there cause irritation and traumatism. It is difficult to see why this last objection would not equally apply to injection of the bladder by any means. Finally, should the eye of the catheter become clogged with a fragment of stone, the latter can only be dislodged by injecting more fluid, when the same thing may recur afterward.

Reliquet employs for this accident the spiral mandrin of Leroy d'Étiolles, which is provided with a circular file at its extremity by means of which the portion of the fragment jutting into the catheter may be cut off and withdrawn. The size of the catheter used does not exceed No. 26 of the French scale.

The most original features of Reliquet's operation are found in his lithotrite and in his apparatus for adjusting the patient's pelvis so that the position of the stone shall correspond to the point touched by the heel of the lithotrite when introduced into the bladder. By means of this apparatus, which is already known to the profession, the movements of the lithotrite are limited to a to and fro motion and rotation upon itself. The advantages claimed for Reliquet's lithotrite are that it seizes very firmly a comparatively large section or slice of the calculus, which is thoroughly comminuted by the peculiar mechanism of the blades, the fragments all escaping behind the beak through the large fenestra in the female blade. It is claimed that the instrument can neither clog nor nip the mucous membrane. The crushing is effected either by means of a rack and pinion or through percussion, for which purpose a small iron mallet is used. The blow of the mallet is delivered upon a knob at the extremity of the male blade, while the left hand of the operator steadies the shaft of the instrument, corresponding to the female blade. Instead of the mallet, the palm

of the hand may be used to give the blow. It is claimed that this manœuvre is often much more effective, especially in the case of very hard stones, than the gradual action of the rack and pinion, or of the so-called "sectional nut."

Finally, the author insists upon the importance of carbolized injections after evacuation, and, during the operation, all the injections consist of a solution of boracic acid of the strength of thirty-five parts to the thousand.

Regarded as a whole, Reliquet's contributions to rapid lithotrity can not but be regarded with much respect. The apparatus which he has devised shows a careful study of the requirements of the operation, and great practical ingenuity. In the author's own hands it doubtless does excellent service. But many a workman is not at his best except with his own tools. It was not every knight that could wield the battle-axe of King Richard. An arm less sure or less stalwart than that of our distinguished author might shrink from playing the part of an anvil as required in "*le brisement par la percussion*."

A Manual of Dental Surgery and Pathology. By ALFRED COLEMAN, L. R. C. P., etc., Senior Dental Surgeon and Lecturer on Dental Surgery to St. Bartholomew's Hospital, etc. Revised by THOMAS C. STELLWAGEN, M. D., D. D. S., Professor of Physiology at the Philadelphia Dental College. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xx-17 to 408, inclusive.

THE American editor has added to the English edition of Mr. Coleman's book about one hundred pages, which include a chapter devoted to directions concerning the selection of dental instruments, one on the greatly improved methods of crowning teeth, notes descriptive of certain modes of treatment demanded by our climate, etc., and one hundred and twelve illustrations. Some of the notes inserted have a practical value, while others, perhaps the majority, are valuable only as aids in securing the copyright. The chapter on "Selection of Instruments" appears to represent faithfully the mechanical ingenuity of the S. S. White Manufacturing Co., yet it seems to be outside of the scope of the original work, and is of questionable utility. The chapter on "Fitting Artificial Crowns to Roots of Natural Teeth" is interesting and practical. The chapter on "Anæsthesia" should be "thoroughly revised," the notes of the American editor falling far short of what they should be, and with a conscientious reference to the too numerous deaths which have occurred in the chairs of dentists.

The book, as written by Mr. Coleman, is an interesting digest of the subject, and contains a goodly share of valuable information for the physician who is obliged to do a certain amount of dentistry. The author's claims are very modest, and his book gives evidence that he is honest in their presentation. These facts commend it as a minor work on dental surgery.

Atlas of Gynæcology and Obstetrics. By Dr. E. MARTIN, Professor of Gynæcology at the University of Berlin, and Dr. J. P. MAYGRIER, Membre de l'Académie Royale de Médecine, etc., containing 475 plain and 35 colored illustrations. The explanatory text translated and edited, with additions, by WILLIAM A. ROTHACKER, M. D., Pathologist to the Cincinnati Hospital. Cincinnati: A. E. Wilde & Co. Folio.

Dr. ROTHACKER is to be congratulated upon the handsome style in which his publishers have brought out these plates, and the profession in this country should feel a sense of obligation to him for his judicious selection and arrangement of them. Most of the plates are reproductions of Martin's collection, as given in his well-known "Hand-Atlas"; the few selected from Maygrier's work are appropriate additions. It may be said of all of them that they are quite as well executed as the originals. Such drawings are of great value to the student of obstetrics and gynæcology, and teachers of those branches can scarcely afford to dispense with their aid. We trust that the profession will support Dr. Rothacker's undertaking liberally.

Transactions of the Obstetrical Society of London. Vol. xxiii, for the year 1881. With a list of Fellows, Officers, etc. London: Longmans, Green & Co., 1882. Pp. lvii-325.

WE have had frequent occasion to speak admiringly of the annual volumes issued by the Obstetrical Society of London, and we can only say of the particular one now under consideration that it is a worthy continuation of the series. In our various Reports on Obstetrics and Gynæcology we have, from time to time, given our readers abstracts of many of the more important papers and discussions of which it is made up. The full text, however, in book form, will none the less commend itself to their favor, especially as the volume contains some important pictorial illustrations that have not been given in the society reports of the journals. Prominent among them are two lithographic drawings illustrating Dr. Matthews Duncan's case of phlegmasia dolens with lymphatic varix, another accompanying Dr. MacCallum's account of a case of villous degeneration of the endometrium, and several appended to Dr. Jastreboff's paper on the normal and pathological anatomy of the ganglion cervicale uteri.

A Practical Treatise on the Diseases of Children. By J. FORSYTH MEIGS, M. D., late one of the Physicians to the Pennsylvania Hospital, etc., and WILLIAM PEPPER, M. D., LL. D., Provost and Professor of Clinical Medicine in the University of Pennsylvania, etc. Seventh edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 1,055. [Price, cloth \$6, sheep \$7.]

BESIDES the thorough and careful revision that is obvious on comparing this edition with its predecessors, an article on Rôtheln has been

added, also one on the subject of feeding. The latter is noteworthy as containing a much-needed and carefully prepared investigation of the value of condensed milk as an article of food for infants. The authors have known children to thrive on that diet, and so, indeed, have most practitioners of experience; but the general tenor of what they feel constrained to say ought to go far toward checking the too common practice of resorting to the use of condensed milk. Certainly, it has nothing but its convenience to recommend it.

The work can scarcely fail to maintain its high position in the esteem of the profession—one which it amply deserves.

Percussion Outlines. By E. G. CUTLER, M. D., Assistant in Pathological Anatomy, and G. M. GARLAND, M. D., Assistant in Clinical Medicine, Harvard Medical School. Boston: Houghton, Mifflin & Co., 1882. Pp. 65, and lithographic plates.

THE object of this little book is to teach students the normal situation and outline of the several organs of the chest and the abdomen, as ascertained by percussion. The authors state that it is essentially an abstract of contributions to the subject by such men as Weil, Ferber, Luschka, and Gerhardt, of the correctness of which they have convinced themselves experimentally. They have certainly presented the matter in such a way that the student will derive aid from the book. The importance of these outlines can not be overrated, and we advise all students of medicine to study the book. We can not avoid remarking, however, about one of the cuts (Fig. 4, from Chadwick), that it strikes us as singular that, showing, as it purports to do, the progressive increase in the size of the gravid uterus by *lunar* months, the scale should stop at the ninth month. Is it possible that the authors have satisfied themselves that at the third lunar month the fundus is situated quite as low as this figure represents it?

Le Sabbat des Sorciers. Par BOURNEVILLE et E. TEINTURIER. Paris: Bureaux du Progrès Médical, 1882. [Pamphlet.—Bibliothèque Diabolique.]

THIS quaint brochure, in antique Rabelaisian French, and with illustrations recalling the infancy of the xylographic art, is the initial issue of a promised "Bibliothèque Diabolique," and contains a full and particular account of the ritual of witchcraft, collected from divers authentic sources. In the absence of any preface or explanatory notes (with the exception of one on page 25), the casual reader may fail to perceive why such a book should have exit from the office of the "Progrès Médical," or wherein lies its pertinence to modern medicine; but those who are familiar with the history of the "possessions" of Loudon, Louviers, and Saint-Médard, and to whom the name of Bourneville is almost synonymous with the study of

hysteria, will read between the lines the genealogy of the "hysteria major" of to-day, which, albeit its pathogeny is as much a mystery as ever, we no longer ascribe to demoniac obsession.

On Spermatorrhœa: its Pathology, Results, and Complications. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Eleventh edition. London: Henry Renshaw, 1881. Pp. viii-182.

THERE is much in Mr. Milton's book to commend it both to the general practitioner and to the special student of andrology. The subject is presented in such a thoroughly exhaustive manner as to make it a valuable book of reference, while the evidences it bears of an earnest and conscientious desire to get at the truth render it a useful hand-book in practice. We note in this work the same refreshing independence of tone that characterized a former treatise by the same author on the pathology and treatment of gonorrhœa. Some of the writer's peculiar views will not escape adverse criticism, but, with the grain of salt which the judicious reader knows how to add, they will, at the least, prove not unacceptable as food for thought.

A Clinical Hand-Book on the Diseases of Women. By W. SYMINGTON BROWN, M. D., etc. New York: William Wood & Co., 1882. Pp. 247.

IN spite of its small size, this book treats not only of the maladies usually included under the term diseases of women, but also of puerperal and venereal affections; and of all of them in such a shallow way that to single out any part for criticism would be slighting the rest. If there is anything of value in the book we have failed to discover it.

An Index of Surgery. Being a concise classification of the main facts and theories of surgery, for the use of senior students and others. By C. B. KEETLEY, F. R. C. S., Senior Assistant Surgeon to the West London Hospital, etc. New York: William Wood & Co., 1882. Pp. vi-320.

THE fragmentary statements contained in this book may possibly be of service under certain circumstances, but some of them certainly are inaccurate and misleading. The volume has a presentable cover, but it is printed on rather shabby paper.

Illustrations of Dissections, in a Series of Original Colored Plates, etc. By GEORGE VINER ELLIS, Professor of Anatomy in University College, London, and G. H. FORD, Esq. Vol. II, second edition. New York: William Wood & Co., 1882. Pp. 226. [Wood's Library of Standard Medical Authors.]

THE first volume of this edition of Ellis and Ford's well known work has not reached us. The second volume comprises the anatomy of the

perinæum, of the abdominal parietes, of the pelvis and its contents, and of the lower limb. There is no occasion to speak of the merits of the work itself; we will therefore simply remark that this edition presents it in as acceptable a form as the general get-up of the series allows of.

BOOKS AND PAMPHLETS RECEIVED.—A System of Human Anatomy, including its Medical and Surgical Relations. By Harrison Allen, M. D., Professor of Physiology in the University of Pennsylvania, etc. Illustrated with three hundred and eighty figures on one hundred and nine plates, many of which are beautifully colored. The drawings by Hermann Faber, from dissections by the author. Also, upward of two hundred and fifty woodcuts in the text. Section I—Histology. By E. O. Shakespeare, M. D., Ophthalmologist to the Philadelphia Hospital. Section II—Bones and Joints. Philadelphia: Henry C. Lea's Son & Co., 1882. 4to, pp. 96; iv—97 to 241, inclusive. Portfolio covers. [Price of each section, \$3.50.] ===== Microscopical Morphology of the Animal Body in Health and Disease. By C. Heitzmann, M. D., late Lecturer on Morbid Anatomy at the University in Vienna, Austria. With three hundred and eighty original engravings. New York: J. H. Vail & Co., 1883. Pp. xix—849. ===== A Practical Laboratory Course in Medical Chemistry. By John C. Draper, M. D., LL. D., Professor of Chemistry in the Medical Department, University of New York, etc. New York: William Wood & Co., 1882. Pp. vi—71. ===== Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. III: Cholecyanin—Dzondi. Washington: Government Printing Office, 1882. 4to, pp. 11—1,020. ===== A Treatise on the Science and Practice of Medicine: or, the Pathology and Therapeutics of Internal Diseases. By Alonzo B. Palmer, M. D., LL. D., Professor of Pathology and Practice of Medicine, etc., in the University of Michigan, etc. Vol. II. New York: G. P. Putnam's Sons, 1882. Pp. vii—866. [Prices, \$5, \$6.] ===== Essentials of Vaccination; a Compilation of Facts relating to Vaccine Inoculation and its Influence in the Prevention of Small-pox. By W. A. Hardaway, M. D., Professor of Diseases of the Skin in the Post-Graduate Faculty of the Missouri Medical College, St. Louis, etc. Chicago: Jansen, McClurg & Co., 1882. Pp. 146. [Price, \$1.] ===== Nitro-Glycerin as a Remedy for Angina Pectoris. By William Murrell, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital, etc. Detroit: George S. Davis, 1882. Pp. 78. [Price, \$1.25.] ===== The Surgical Treatment of Hæmorrhoids. By Walter Whitehead, F. R. C. S. E., F. R. S. Edin., Surgeon, Manchester Royal Infirmary, etc. London: J. & A. Churchill, 1882. [Pamphlet.] ===== Speech and its Defects, considered Physiologically, Pathologically, Historically, and Remedially. By Samuel O. L. Potter, M. D., author of "An Index of Comparative Therapeutics," etc. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 117. [Lea Prize Thesis of Jefferson Medical College.—Price, \$1.] ===== Piana-Ballotta. Progetto premiato al concorso del Nuovo Ospedale di Lugo in Romagna. Pubblicato a cura della commissione cassa-fabbrica. Bologna: Nicola Zanichelli, 1882. Pp. 113. ===== London Water Supply. Report, etc., for the month ending July 31, 1882. By William Crookes, F. R. S., William Odling, M. B., F. R. S., F. R. C. P., etc., and C. Meymott Tidy, M. B., F. C. S., etc. ===== A Treatise on Therapeutics, comprising Materia Medica and Toxicology, with especial reference to the Application of the Physiological Action of Drugs to Clinical Medicine. By H. C. Wood, Jr., M. D., Professor of Materia Medica and Therapeutics, etc., in

the University of Pennsylvania. Fourth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co., 1882. Pp. 736. [Price, cloth \$6, sheep \$6.50.]
 ===== The Treatment of Diseases by the Hypodermatic Method. By Roberts Bartholow, M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia. Fourth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co., 1882. Pp. 365. [Price, \$2.]
 ===== On Asthma: its Pathology and Treatment. By Henry Hyde Salter, M. D., F. R. S., F. R. C. P., Physician to Charing Cross Hospital, etc. First American from the last English edition. New York: William Wood & Co., 1882. Pp. xii-284. [Wood's Library of Standard Medical Authors.]
 ===== Fistula, Hæmorrhoids, Painful Ulcer, Stricture, Prolapsus, and other Diseases of the Rectum: their Diagnosis and Treatment. By William Allingham, M. D., F. R. C. S. E., etc. Fourth revised and enlarged edition, with illustrations. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 168. [Price, cloth \$1.25, paper 75c.]
 ===== Neue Untersuchungen über den Respirations-Gasaustausch im fieberhaften Zustande des Menschen. Von Prof. Dr. Gustav Wertheim. [Reprint.]
 ===== The Application of Pressure in Diseases of the Uterus, Ovaries, and Peri-uterine Structures. By V. H. Taliaferro, M. D., Professor of Obstetrics and Diseases of Women and Children in the Atlanta Medical College. [Reprint.]
 ===== Transactions of the American Otological Society, iii, 1, 1882.
 ===== Transactions of the State Medical Society of Arkansas at its Seventh Annual Session.
 ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

THE seventh annual meeting was held in Boston, September 20, 21, and 22, 1882, Dr. THOMAS ADDIS EMMET, President, in the chair.

THE ADDRESS OF WELCOME was delivered by Dr. G. H. LYMAN, of Boston, who referred to the twofold design of the society—the scientific and the social—the prime object being to stimulate careful observation and sift cautiously from the constantly accumulating experience that which would tend to advance scientific medical and surgical treatment.

THE PROPER USE OF ERGOT IN OBSTETRICS was the title of a paper read by Dr. JOSEPH TABER JOHNSON, of Washington, who desired to bring our knowledge of the powers of the drug for doing harm and producing benefit into a condition from which a few rules could be derived to guide us in its use in cases of labor. In the first place, it was desirable to determine what the real effect of the drug was upon the uterus and the child within its cavity. There was a general agreement that, when administered in sufficient doses, ergot produced a kind of contraction diametrically opposed to the rhythmical contractions of the normal par-

turient uterus, and that this persistent tonic contraction of all the muscular fibers held the contents, as it were, in a vise. The safety of the process of parturition consisted in the alternating relaxation of the uterine tissues with recession of the presenting part. The great danger in long-continued pressure of the child upon the soft parts of the mother was death of the tissues pressed upon, as had been shown most satisfactorily by Dr. Emmet. The uncertainty of the action of the drug was one of the chief dangers in its use. It might act upon a part or upon the entire organ. When first introduced into obstetric practice in this country by Dr. Stearns, the idea that it could originate and intensify uterine contractions was very generally accepted, and it therefore came to be the remedy for uterine inertia occurring either before or after delivery. It was not long, however, before warning notes were sent out that the drug might cause still-births and other accidents during labor. Differences of opinion arose with reference to the use of ergot during and after labor, and many of these were quoted by the author of the paper. Dr. Johnson was positive that the administration of ergot for the purpose of securing rapid expulsion of retained membranes in abortion increased the difficulty of their extraction tenfold, and in the same proportion increased the danger in the case. As a prophylactic against post-partum hæmorrhage it could not be relied upon, because of the time required for it to act, if it acted at all, and its liability to produce vomiting. So far as his opinion went, he believed that the human race would be much better off if ergot were utterly abolished from the lying-in chamber. It should never be given to a primipara. It would be safer not to give it to any woman in labor. Yet, in skillful hands, when its powers were well known and its dangers fully appreciated, it might be used with advantage in the second stage of labor for overcoming uterine inertia, but only in those cases in which it was quite certain that the child could be expelled by a half-dozen vigorous pains. Even then the fœtal heart should be frequently auscultated, and, if its action became slowed or enfeebled, labor should at once be terminated with the forceps. Ergot was contraindicated in cases of retained placenta. He also believed that it delayed involution and increased the severity of after-pains. In placenta prævia, or accidental hæmorrhage, it was not indicated if the child was viable and it was possible to prevent its birth. Ergot would be retained in the list of remedial agents so long as hæmorrhage occurred in consequence of relaxation of uterine muscular fiber, but in these very cases the safety of the woman depended upon firm contraction of a uterus that had been first emptied. To administer ergot before the uterus was completely emptied was to interfere with, if not for a time to prevent, the manipulations necessary to turn and extract the child and the placenta. Should hæmorrhage continue subsequently, ergot was indicated.

Dr. JOHN P. REYNOLDS, of Boston, remarked, with reference to Dr. Johnson's statement that ergot should be withheld until the uterus was entirely empty, that if there was no complication the rule might hold good; but he remembered certain exceptional cases in which ergot, as it had seemed to him, had been of great assistance, and these he regarded as worthy of mention. If an experienced accoucheur were in attendance, and *all* the conditions of the mother and the child were favorable for a speedy and unobstructed delivery, ergot might produce astonishing and good results. But in these cases it was not necessary either to give large doses or to produce the violent action of the drug. From five to ten drops of the fluid extract, repeated at short intervals, carefully watching its effects, would soon determine whether or not any benefit was to follow its use. He

agreed with the author of the paper in what he had said concerning the use of the drug for the purpose of emptying the uterus when it contained portions of membranes. At the same time he believed that treatment by the use of opium and other agents for the control of hæmorrhage, etc., was a much wiser practice than too active manual interference. He also was of the opinion that anæsthetics developed a tendency to post-partum hæmorrhage, and so indirectly aided in the development of the routine practice of administering ergot in the second stage of labor.

Dr. FORDYCE BARKER, of New York, remarked that, however desirable it might be to have formulated rules of practice, especially in cases in which we were required to act promptly and decidedly, it was exceedingly difficult to lay down any rules to which there were no exceptions. There were certain rules, already accepted by the profession as fixed, concerning the use of ergot in labor, such as: that it should never be used to induce uterine contraction in the first stage; that it should never be given except in vertex presentations; never when there was the slightest disproportion between the fœtus and the passages of the mother; never unless the soft parts were perfectly prepared for dilatation; never unless the child could be expelled rapidly, etc. But to say that ergot should absolutely never be given for the purpose of exciting uterine contraction in the second stage of labor he regarded as unwise. There were, as he believed, exceptional cases in which ergot might be used with very great advantage: for example, in that class of cases in which nerve force became exhausted, on account of great sensitiveness of the woman to pain, and labor ceased. It did not cease because of lack of uterine power; and whenever this point was reached, and *all* other things were favorable, he gave an anæsthetic sufficient to allay the extreme sensitiveness to pain, and then administered full doses of ergot. The result had usually been that labor was quickly and successfully terminated; but, if there was any delay under these circumstances, he employed the forceps, for, as might be inferred, the conditions were such as rendered the use of instruments feasible and safe. With reference to after-pains being produced by ergot, he habitually administered the drug after labor for the purpose of securing permanent contraction of the uterus, thus preventing effusion of blood into the uterine cavity, and in that way avoiding the occurrence of after-pains. Dr. Barker then spoke of the value of ergot in promoting rapid involution. With reference to the influence of anæsthetics in producing a tendency to post-partum hæmorrhage, he had used chloroform in several thousand cases, and had not had post-partum hæmorrhage except in one instance. He always, however, exercised all precautions against its occurrence, such as following the uterus down with firm manual pressure, etc., and the administration of ergot immediately after the expulsion of the placenta. Instead of anæsthetics being a cause of post-partum hæmorrhage, he believed that, in a large proportion of cases, they were the best of all measures for preventing it—and why? Because the anæsthetic prevented loss of nerve force—a loss which in many cases permitted hæmorrhage to occur.

Dr. WILLIAM T. HOWARD, of Baltimore, had never used ergot for the purpose of increasing the expulsive power of the uterus. When a greater amount of expulsive force was required, he had always employed the forceps, and had done so because the action of ergot, when established, was constant. He was entirely convinced that anæsthetics increased the liability to post-partum hæmorrhage, and therefore he always administered ergot, in cases in which an anæsthetic had been given, just as the head passed through the vulvo-vaginal orifice. He was

unable to indorse Dr. Barker's statement with regard to the beneficial influence of ergot in securing speedy involution of the uterus. He believed that ergot, to a certain extent, diminished the tendency to certain forms of puerperal fever by preventing retention of blood and putrefying substances within the uterine cavity.

Dr. J. D. TRASK, of Astoria, N. Y., said his practice, of late years, had been to resort to the forceps in preference to ergot whenever he wished to aid labor-pains. It was also his invariable habit to give a drachm of the fluid extract immediately upon the expulsion of the head of the child in every case, and he did so for the purpose of securing permanent uterine contraction. He was quite surprised at Dr. Barker's experience in the use of anæsthetics in obstetric practice. With him, there had been a growing mistrust concerning their use in labor, and he had made up his mind that he would not again administer chloroform, because he was convinced that anæsthetics increased the tendency to post-partum hæmorrhage.

Dr. G. J. ENGELMANN, of St. Louis, thought that vaginal injections of hot water containing a disinfectant answered better for avoiding the dangers attending incomplete contraction of the uterus after delivery than ergot. He had used ergot, but had always doubted whether any benefit followed its administration, and he could only say the same with reference to its use in labor.

Dr. JOHNSON, in closing the discussion, said that, although he had not had any experience in the occurrence of post-partum hæmorrhage as a result of the use of anæsthetics, yet, on general principles, he always gave ergot in such cases. The subject of subinvolution, referred to by some of the gentlemen, was beyond the scope of the paper. At the same time, the point made by Dr. Barker concerning its use in that class of cases was an excellent one.

THE TREATMENT OF THE PEDICLE IN OVARIOTOMY.—Dr. R. S. SUTTON, of Pittsburgh, Pa., sent a paper in which he stated that he had carefully studied the report of Dr. Robert Houston's case, but had been unable to learn that the pedicle was treated in any special manner. That Dr. Houston did in 1701 attack and destroy a cystic tumor of the left ovary there was no doubt. The patient lived thirteen years after the operation, and there was no return of the disease. It was Dr. Sutton's opinion that Dr. Houston unconsciously enucleated the lining membrane of the cyst, and did not treat the pedicle further. John and William Hunter, and after them John Bell, kept Houston's case before the profession. In 1794, McDowell, of Kentucky, a student of John Bell's, heard the latter maintain the feasibility of removing ovarian cysts by abdominal section, and in 1809, in this country, he performed ovariectomy, the first systematic operation ever performed for the removal of an ovarian tumor. He tied the pedicle with a single ligature, the ends of which were left hanging out at the lower angle of the wound. For eleven years no other method of treating the pedicle was suggested, and then Chrysmier, of Württemberg, tied the pedicle in two portions, but left the ligatures hanging out as McDowell had done. In 1821, Nathan Smith, of New England, tied the arteries of the pedicle separately with strips cut from a kid glove, cut the ligatures close to the knots, dropped the pedicle, and closed the abdominal wound. Then followed a historical sketch of the numerous methods of treating the pedicle that have been tried, and in Dr. Sutton's opinion the question had resolved itself into the merits of the ligature cut short and those of the cautery as introduced by Baker Brown in 1864. The author then gave an account of the method employed by eminent surgeons, such as Keith, Wells, Billroth, and many

others. In conclusion, Dr. Sutton mentioned certain conditions which influenced success in ovariectomy favorably and unfavorably, and which should be carefully studied independent of any special method of operating or treating the pedicle. He placed among the conditions tending toward success the following: 1, Climatic influences; 2, avoidance of the clamp; 3, drainage; 4, the judicious use of purgatives after the operation (dangerous ground); 5, the judicious use of opium; 6, the presence at the operation of only those whose presence was required; 7, a good assistant, and always the same one; 8, careful administration of the anæsthetic; 9, absolute cleanliness as to person, sponges, and ligatures; 10, avoidance of the operation in public hospitals; 11, performing the operation in well-regulated private hospitals; 12, avoidance by the operator and his assistant of all septic diseases, and of the examination of women who were menstruating or having leucorrhœal discharges; 13, the proper application of the ligature or the cautery; 14, complete cleansing of the cavity of the peritonæum after operating. Among the conditions leading to failure he placed prominently: 1, Climatic influences; 2, extra-peritoneal treatment of the pedicle; 3, insufficient regard to proper drainage; 4, constipation not relieved prior to the operation; 5, the injudicious use of opium; 6, the presence of a crowd; 7, want of cleanliness; 8, overdoses of anæsthetics; 9, hospitalism; 10, septic contamination of the operator, assistant, or nurse; 11, insufficient experience in operating, or want of practical knowledge of the operation; 12, changing the assistant or nurse; 13, performing the operation at an improper time or place; 14, repeated tapping of the cyst; 15, delaying the operation too long; 16, operating in spite of organic diseases of other organs, especially of the kidneys.

Mr. KNOWSLEY THORNTON, of London, England, opened the discussion, and said he thought the practice of waxing the ligature had been entirely given up in his country. Again, he believed that Sir Spencer Wells was at the present time a most constant advocate of the intra-peritoneal treatment of the pedicle. So far as he was concerned, he regarded the spray as a most important factor in obtaining success. He could not conceive how it would be possible for him to give up the spray, inasmuch as it enabled him to dispense with the drainage tube. Theoretically, he had been in favor of using the cautery. From a somewhat extended observation, he had been convinced that the ligature rarely, if ever, cut off all vascular supply, as the cautery did. But he had always used the ligature, simply carbolyzed, and dropped the pedicle, and had come to regard it as a safe method. Although Dr. Keith used the cautery, and had had remarkable success in his operations, Mr. Thornton thought we must not always quote Keith as a standard for all of us. It was a mystery to him how unfavorable results from the use of carbolic spray had been obtained. He had never seen any evil results follow its use, except in one case, and that was one of removal of a kidney in a small child. It had been his habit to give opium freely after the operation, and as a rule he administered a drachm of the tincture by rectal injection, and then gave twenty drops every six or eight hours afterward. With regard to the bowels, he trusted to enemata, and did not use purgatives at all. In answer to a question, Mr. Thornton said that the opium, as he thought, diminished the tendency to nausea at first, and after three or four days it might increase such tendency. The tincture was the only preparation he had used. He was especially desirous to learn the opinions of American operators concerning climatic influences on the results of ovariectomy.

Dr. G. H. LYMAN, of Boston, regarded opium as one of the best of antiphlo-

gistics, and he thought it did not increase the tendency to nausea so long as the continuous effect of the drug was maintained. He also was of the opinion that, if properly given, it would not, to any dangerous extent, arrest the eliminative action of the skin and kidneys. He had found pills, made of the soft gum taken from the inside of a large piece of opium, to be the most eligible mode of administering the drug, and the least liable to give rise to nausea.

Dr. GILMAN KIMBALL, of Lowell, Massachusetts, said that he had resorted to nearly every mode of treating the pedicle mentioned in Dr. Sutton's paper, and had reached the conclusion that to drop the pedicle was the best way. As to the spray, he had made up his mind to abandon it in all abdominal operations, and because he was satisfied that he had lost patients in consequence of its use. The outward dressings embraced in Mr. Lister's plan, he believed, should be carefully observed. Cases of death with suppression of urine, and hæmaturia after the use of the spray, were then cited, and he said he had not had a case in which these symptoms had been developed where the spray had not been used. With regard to climatic influences, there must be some such reason why better success had been obtained in Europe than in this country. He believed that American operators were as competent as any in the world, yet they had not obtained as good results as had been obtained on the other side, and he thought the differences in climate had much to do with the matter. He had determined to refuse to perform ovariectomy unless he found his patient in good condition with regard to the skin, kidneys, etc., and it was well known that the condition of the skin in this country was often not so good as it was in Great Britain. He believed that that fact had something to do with the results that had been obtained in ovariectomy.

THE CARE OF THE PERINÆUM IN THE SECOND STAGE OF LABOR.—Dr. THEOPHILUS PARVIN, of Indianapolis, read a paper in which he spoke of the preservation of the vulvo-vaginal orifice from injury during the passage of the child's head and shoulders, or making it as slight as possible if it must occur, as one of the most important duties of the accoucheur in the second stage of labor. According to Duncan and Schroeder, some tearing of the vaginal orifice was inevitable in primiparæ, only thirty-nine per cent., as the latter stated, of women in their first labor escaping rupture of the fourchette. The perinæum was especially liable to rupture in the median line, for there was the greatest distension, and, besides, the tissues there were least able to resist, because farthest from their attachments. When the perinæum had apparently received no injury, it might have been subjected to such pressure and distension that a few days after delivery it would finally give way, and a condition result similar to a laceration. The question of frequency of rupture had not been settled. The assertion that hundreds of consecutive cases had been attended without rupture of the perinæum could never be accepted, unless the person making it could also state that he had carefully examined the perinæum in every case immediately after labor. In the great majority of cases laceration of the perinæum was caused by precipitate delivery, the expelling power overcoming the resistance by tearing, and not by stretching. To reduce the accident to the minimum, or to prevent it, the accoucheur should hinder the abrupt expulsion of the head of the fetus, and so permit gradual dilatation to take place. To accomplish this, the first thing to be done was to place the woman upon her side. The advantages of this position were, that it lessened abdominal pressure and prevented wide separation of the knees. Pressing with the feet or pressing upon the knees by

an attendant must not be permitted. Frequent respiration and abstaining from all bearing-down efforts must be enjoined, and an anæsthetic administered if the woman did not refrain from the latter. If the dilatation were insufficient, the head must be held back, and it must be guided in the axis of the outlet during its escape. Brief reference was then made to the methods recommended by various writers for fulfilling these indications, such as "hooking two fingers into the rectum and drawing the perinæum forward, while at the same time the advance of the head was restrained by pressure with the thumb," a method which, he believed, in a majority of cases, only irritated the rectum, and gave rise to expulsive efforts which the accoucheur wished to avoid; "using the forceps to regulate the descent of the head," "preserving the perinæum by preventing its lengthening," etc. He believed that the practice with which the immense majority of the profession was in accord was to protect the perinæum by supporting it during the passage of the head and shoulders. Supporting the perinæum was really strengthening the weak part of an elastic ring so as to relieve it of excessive strain. Apply the hand directly, with no intervening napkin. We should give support only at the close of the second stage, and only during a pain. If it was inevitable that rupture should occur, incisions had been advised—first by Ould in 1742. Most operators had advised lateral incisions, but Tarnier had objected to them, because they did not always prevent extensive lacerations, and they might leave painful cicatrices or involve the ducts of the vulvo-vaginal glands, and he therefore recommended an incision which began at the raphé and turned obliquely toward the side, so that, if laceration did follow, it would not involve the anal sphincter. Episiotomy might save the tissues from bruising, and might save the anal sphincter, but should not be resorted to unless indispensable. The frequency with which the operation had been performed by different obstetricians varied considerably. Dr. Parvin thought it had been shown conclusively that, when rupture did occur, it should be closed by sutures at once, and he believed that horse-hair answered the purpose as well as any material which could be used.

Dr. ALBERT H. SMITH, of Philadelphia, had felt for a long time that the question of the management of the second stage of labor was one of management of the head of the child rather than the perinæum. The chief thing was to keep the head from pressing against the raphé of the perinæum. Lateral lacerations were relatively rare, and, when they did occur, were comparatively harmless. The most serious laceration was that which occurred in the region of the raphé, because then division not only of the perineal body, but also of the sphincter back into the rectum, might occur. If, therefore, the laceration could be diverted to the lateral portion of the perinæum, if it must occur, two serious accidents would be avoided. The object, then, should be to divert pressure toward the lateral portion of the vulvo-vaginal ring, and he thought that could be best accomplished by bringing pressure to bear upon that portion of the head which pressed directly against the median portion of the perinæum. Place the woman upon her side, and make pressure with the thumb and fingers upon the presenting part of the head. This manipulation not only relieved the raphé from undue pressure, but it also changed the shape of the child's head so as to bring it to bear upon the lateral portions of the perinæum. A certain amount of pressure might also be made upon the perinæum, but it should be at a distance from the tissue which we wished to preserve from being lacerated. By some this was accomplished by making pressure with the thumb upon one side,

and with the fingers upon the other, loosening the tissues, as it were. In the vast majority of cases, by such manipulations as he had described the perinæum could be saved from rupture. He thought the method of introducing the fingers into the rectum a good one when the perinæum was very rigid, for it enabled the accoucheur to carry the head of the child away from the perinæum, and also, perhaps, in the absence of a pain, to slip the perinæum over the face, thus assisting nature in the process. With regard to episiotomy, he resorted to it whenever necessity seemed to demand it. When the operation was necessary, the incision should be made about one third of the distance between the raphé and the clitoris upon either side, and he had seen cases where he was sure the perinæum would not have been saved otherwise. As to the after-treatment, that depended upon the extent of the incision. He was in the habit of applying a strong solution of carbolic acid to the edges of the wound, to prevent absorption of poisonous matter, and when the incision was deep he introduced deep silk sutures.

Dr. JAMES R. CHADWICK, of Boston, regarded the term "supporting the perinæum" as a misnomer. It had always seemed to him that the entire secret of preventing laceration of the perinæum was to prevent too rapid passage of the child's head. He believed that all that was accomplished by holding upon the perinæum was retardation of the passage of the child's head, and in that manner laceration was, perhaps, prevented. He was unable to see the significance of Dr. Smith's statement with reference to diverting pressure from the raphé to the sides of the perinæum, for the tension was the same at every part of the circular orifice through which the head must pass.

Dr. W. T. HOWARD, of Baltimore, was of the opinion that ruptures of the perinæum, especially if extensive, almost invariably took place when the woman was lying upon her back. He thought that the best method of preventing rupture, when the perinæum was rigid, was to place the woman profoundly under the influence of an anæsthetic. Again, the shoulders most commonly caused the rupture, and he therefore invariably pulled out the shoulder nearest to the symphysis pubis, and since he had adopted that plan he had uniformly avoided laceration. With reference to treatment of the rupture, after it had occurred, he advocated the primary operation, and latterly he had used the silk-worm gut suture with very satisfactory results. While as a general rule it might be best to unite the laceration by means of sutures at the earliest possible time, he knew perfectly well that sutures introduced on the second day after the accident might give excellent results.

Dr. PAUL F. MUNDÉ, of New York, thought that the forceps prevented rupture of the perinæum by checking the too rapid passage of the head through the vulvo-vaginal orifice. No matter what means were used, if the head could be arrested until the perinæum was thoroughly distended, the safety of the perinæum was favored. His usual method was to place the woman upon her side, and with two fingers in the rectum manipulate the head gradually, between the pains, endeavoring to extend it, and during the pains to keep it back. If too hasty manipulation were made in that manner, a brow presentation might be produced; but, if fifteen minutes were consumed, a perinæum might be saved which otherwise would be ruptured. If laceration did occur, he would sew it up at once.

LEUCORRHEA: ITS CONSTITUTIONAL CAUSES AND THERAPEUTICS.—Dr. FORBYSCE BARKER, of New York, read a paper in which he said it had seemed to him that the fact that leucorrhœa was not a distinct disease, but a symptom of many

different and even opposite pathological conditions, had led to a neglect of its study, and also to a forgetfulness of the fact that it originated, not rarely, in constitutional causes, and that when long-continued it became itself a cause of local and important pathological changes. During the last quarter of a century no writer on diseases of women had considered it, except incidentally, as a symptom of some local disease, with the exception of Courty, Stoltz, and Robert Barnes, who had called attention to some of its constitutional causes. This was equally true of American, English, French, and German gynæcologists. The great advancement made in methods of physical exploration had led to careful study of certain organic changes in the pelvic organs, but seemed to have been attended by a corresponding neglect of some other equally important points. He had seen and treated many patients who had received the best surgical treatment that could be obtained, and had been greatly improved for a time, but, finding that their symptoms returned, they had gone back, and again received local treatment. A large proportion of them had thought themselves cured, but the leucorrhœa, the backache, the irritable condition of the bladder, and the nervous disturbance, had returned within periods of time varying from months to years. Leucorrhœa was the most constant of all the symptoms complained of by this class, and usually it was regarded by them as the cause of their debility, headache, etc. In a certain proportion, careful inquiry revealed the fact that for a while after local treatment they had been free from all symptoms of disease, and then the leucorrhœa had returned. In some he had found disorders of menstruation, and in those there was always found some pathological condition of the pelvic organs, and yet many of those disappeared after the adoption of constitutional treatment, and without local applications except vaginal injections. For many years he disbelieved entirely the opinion of Tyler Smith, that leucorrhœa was, in many cases, a primary cause of morbid conditions of the os and cervix, and, while at the present time he was not at all disposed to accept the view as true in a majority of cases, he had, within the last few years, been convinced that it was the fact in some. While he accepted the statement that local and constitutional causes developed leucorrhœa, he thought it might be a question whether the latter were not too often disregarded, both in the diagnosis and in the treatment of this disorder. Many of the constitutional causes, such as general catarrhal inflammations, induced by atmospheric changes or other influences, plethora in some, anæmia in others, defective nutrition and debility induced by prolonged lactation, excessive fatigue from certain employments, as continued standing for many hours, were so well understood as to need no further reference. The influence of nerve disturbance as a consequence of defective nutrition was, perhaps, not so generally appreciated, although most practitioners knew the fact that strong emotion was sure to bring on troublesome leucorrhœa in some of their patients. The importance of the liver and the portal circulation had long been known and insisted upon, notably by Rigby and Mackenzie. There were numerous cases in which physiological and anatomical considerations had an important bearing, and in which local treatment was not practicable, and would be worse than useless. Leucorrhœa, with its attendant symptoms, was not at all rare in young unmarried women, and every year he saw many cases, chiefly among those who came to the city "to finish their education," so called. The moral depression from homesickness, and exhaustion of nerve power exercised in unaccustomed directions, seemed to him to be the most common of the constitutional causes in these cases. He suspected that the most frequent error

in their treatment was in the disregard of the necessity of such remedial agents as secured a healthy performance of all the organic functions, a neglect of the *morale*, and the routine prescription of some preparation of iron which, under these circumstances, was sure to destroy the appetite and produce headache. Local treatment was useless, if not positively injurious, for leucorrhœa the consequence of parturition. Of course, if local lesions existed that local treatment could cure, it should be adopted. But neither the involution of a large, flabby uterus, nor the contraction of its enlarged veins, could be effected by local treatment, and, to his mind, it was doubtful whether it was useful in furthering the restoration of defective tissue. In women who had passed the climacteric period, leucorrhœa was not an uncommon symptom, and in most cases depended upon constitutional causes. If the discharge was occasionally blood-stained, a local examination was absolutely imperative.

Dr. G. H. LYMAN, of Boston, thought that the author of the paper had taken a step in the right direction in pointing out the necessity of more and more employing constitutional measures in the treatment of many cases of leucorrhœa, rather than trusting solely to local treatment.

Dr. H. P. C. WILSON, of Baltimore, regarded leucorrhœa as a symptom of some condition that required special treatment. Every one knew that the woman who had local uterine trouble was very apt to get into a state of demoralization, and in many cases something beyond local treatment was necessary in order to effect a cure. Such patients should be occupied with matters which diverted their attention from their local troubles, and most of them needed only such medicinal treatment as was necessary to correct indigestion, perhaps keep the bowels in good condition, etc. He was daily being convinced that general therapeutics was of the very greatest importance in gynæcology.

Dr. A. REEVES JACKSON, of Chicago, said that the sermon preached by Dr. Barker was as good as could be given from the text, but he regretted that the speaker had not been a little more explicit with regard to details; for he had frequently encountered cases of leucorrhœa where, after resorting to local treatment and all forms of constitutional measures of which he had any knowledge, the miserable symptom again returned.

Dr. JOSEPH TABER JOHNSON, of Washington, felt quite certain that considerable constitutional treatment must be combined with local treatment in order to obtain the best results in this class of cases. If there was local lesion, common sense directed that efforts be made for its cure. It was certain that leucorrhœa continued after local lesions had disappeared, and it also occurred without local lesions; and in both classes of cases constitutional treatment was required.

Dr. ALBERT H. SMITH, of Philadelphia, thought it possible that the paper might carry with it from the society a wrong impression, unless a slight caution was given. There must be some condition that located this disorder in this part of the body, and that cause should, if possible, be found and removed. But there were a great many ways of using local measures; as, for example, removal of the patient from certain marital conditions, preventing her from climbing too many flights of stairs, etc., as well as the use of caustics, pessaries, etc. A careful investigation of all possible sources of irritation should be made before abandoning the cases entirely to treatment by purely constitutional remedies.

The PRESIDENT said that the great point was to ascertain, if possible, what the cause of the leucorrhœa was, and then the burden of responsibility rested upon the surgeon with reference to its cure. Leucorrhœa must be looked upon

as a result of perverted nutrition in almost every instance. It was easy to understand why it centered upon the uterine system, be the cause what it might—whether too much grammar or too little exercise; and it was for the reason that the sympathetic nervous system presided over nutrition and also over the organs of generation, and the one sympathized with the other. He could readily understand why a young girl, overtaxed with mental labor to such an extent as to develop a condition of perverted nutrition, should have a leucorrhœal discharge.

Dr. BARKER said that it was not his intention to depreciate a most careful physical exploration, but simply to call attention to the fact that there were many cases where, on account of peculiar circumstances, local treatment and local examination were not possible, practicable, or useful.

THE RELATIVE VALUE OF HYSTERECTOMY AND OF THE COMPLETE REMOVAL OF THE UTERINE APPENDAGES FOR THE CURE OF UTERINE FIBROIDS.—Mr. J. KNOWSLEY THORNTON, of London, Eng., read a paper in which he remarked that he included in the term “hysterectomy” all cases in which the uterine cavity was laid open, and more or less of its wall removed along with the fibroid. Whether one or both ovaries were also removed was not a matter of any consequence. He reserved the term “complete supra-vaginal hysterectomy” for cases in which the fibroids, the uterus, and the uterine appendages were all removed, and it was, therefore, a combination of the two operations which to-day were considered rivals.

The author confined himself solely to those cases which could be best treated by abdominal section, if treated at all, and he classified them under the following heads: 1. Fibro-cysts of the uterus. 2. Fibroid outgrowths, pedunculated and sessile, both of which were outside of the field under consideration. 3. Groups of outgrowths surrounding and involving the whole organ. 4. Intramural fibroids. 5. Submucous fibroids. 6. General fibroid enlargement of the whole or a greater part of the uterine wall.

He then gave statistics with reference to abdominal operations, complete and incomplete hysterectomies, and reached the conclusion that, notwithstanding the improvements in the performance of complete abdominal hysterectomy and complete supra-vaginal hysterectomy, both these operations were very formidable and attended by a grievous mortality, although justifiable, even necessary, in a certain number of cases. But, thanks to American surgery, the brilliant conception of Blundell, in 1823, was made a recognized surgical procedure by Battey in 1874, and now, from the labor of others and his own, he was able to present to the society an operation perfected, which would render hysterectomy less formidable than it had been in the past. The complete removal of the uterine appendages, when efficiently performed, cured fibroids of the uterus with a rapidity and certainty that Blundell in his most sanguine moments never dreamed of. The question then arose, Were we justified in subjecting patients to supra-vaginal hysterectomy when we could cure them by removal of the uterine appendages? Some would inquire, Can we cure them by the latter operation? So far as his experience and his observation had led him, he was prepared to believe that the operation was a justifiable one, and that it should be performed in preference to supra-vaginal hysterectomy. He then related briefly the history of eight cases in which he had performed the operation, and in these histories appeared the reasons for it, such as severe hæmorrhage giving rise to extreme anæmia, and accompanied with enlargement of the uterus. In only one

case did any fever follow the operation. He had reached the conclusion that it was useless to simply remove the ovaries. It was most important to bear in mind that the operation must be performed thoroughly or it would fail. In order to ligate the vessels in the broad ligaments securely, the tubes and the ovaries must be thoroughly strangulated at their bases. The ovaries must be completely removed. Either incomplete removal of the ovaries or imperfect ligation of the blood-vessels might cause the operation to fail. In most cases it stopped menstruation. It should be performed before the tumor had attained any very great size. It was applicable to all myomatous enlargements of the uterus, and also to fibro-cystic tumors of the organ if provision were made for drainage of the latter during the shrinking and absorption of the solid tissues. He should in the future prefer this operation to enucleation for intramural or submucous tumors, unless they were partly disposed of by thinning or necrosis of the mucous membrane. This of all operations was one in which Listerism should be adhered to. To conclude, the operation of complete removal of the uterine appendages for fibroids and fibro-cystic tumors of the uterus was indicated in all cases where the surgeon's aid was required, and was a more conservative operation, and less dangerous, than supra-vaginal hysterectomy. The latter should be resorted to only when the former had failed.

Dr. WILLIAM GOODELL, of Philadelphia, remarked that he saw Mr. Thornton do something, at the operation which he had the pleasure of witnessing, that prompted him to do the same thing, but in his case, as he thought, it caused the death of the patient. It was the operation in which Mr. Thornton encountered a fibro-cyst, and, finding it impossible to remove it, opened the sac and emptied it, a profuse hæmorrhage following, which was mostly controlled by ligatures. But there was deep-seated hæmorrhage, for the control of which he introduced perchloride of iron into the sac, rapidly sweeping out the excess, and the result was arrest of the bleeding. The patient made a good recovery. In an analogous case Dr. Goodell did the same thing, except that he used Monsel's solution, and he feared that death was due to this procedure. He was not disposed to lay the operation of enucleation wholly aside, because he had performed it a number of times and had been successful so uniformly that he certainly should prefer it, since it left the woman unmutilated. But there were cases in which it could not be performed. He had performed oöphorectomy four times for uterine fibroid, with two recoveries and two deaths. Unfortunately, all these operations were performed in a general hospital, and he thought that had much to do with the mortality. The histories of these cases were then given. There was a certain phenomenon with reference to this operation, of which he wished to speak, and it was the effect produced by making traction upon the ovaries. When he had done so for the purpose of determining where the pedicle was, etc., symptoms of collapse had suddenly developed, sufficiently marked to render it necessary to suspend the use of the ether. He also thought it very important to remove both ovaries, and referred to two cases where he removed only one ovary, and ever since had regretted leaving the other, because the woman soon began to suffer severely from pain and hæmorrhage. The operation of hysterectomy had been so fatal in this country that he thought it best to remove the ovaries in preference. Still, there arose the question with regard to those enormous soft fibroids, and also some very large hard ones. What was the best method of treating the case? Perhaps the operation presented by Mr. Thornton might be the one which would give the most favorable results. With reference to making an

exploratory incision, so far as his experience went, it was a procedure fraught with danger. He had performed the operation in two cases, and in both a fatal result followed.

Dr. T. GAILLARD THOMAS, of New York, said that his experience with regard to removal of the uterus for tumors, solid or fibro-cystic, had been confined to thirteen cases, with seven recoveries and six deaths. With regard to the propriety of this operation, it seemed to him that there could be no more dangerous gynaecologist than he who went forth determined to extirpate the uterus because of the presence of a solid tumor. For everybody knew the great frequency with which these tumors occurred. It could be safely said, probably, that one fourth of all Anglo-Saxon women had fibroid tumor of the uterus of greater or less size; and to expose a woman to the dangers of oöphorectomy or hysterectomy simply because she had a tumor of the uterus was a most unjustifiable procedure. It was well recognized, however, that, in certain cases, hysterectomy must be performed, else the patient would die of hæmorrhage; or, again, the pain might be so severe as reasonably to justify and demand the operation. If the life of the patient was so endangered, and it was possible to remove the tumor by the vagina, he believed that that operation should be performed in preference to all others. He was willing to assume the position that, if the vulsella could be firmly fixed in the tumor within the uterine cavity, it was safer to remove it by the vagina than by any method which had yet been devised. Although there was nothing which struck the surgeon with more intense horror than to feel and see the intestines coming out into the vagina through an opening in the wall of the uterus, yet in three cases he had gone through the uterine wall distinctly, and in all three recovery took place—so that complication, however serious it might be, was not necessarily fatal, drainage taking place readily, and hernia rarely following. It did not so militate against the vaginal operation but that it should be preferred to either laparotomy or removal of the ovaries. With regard to the method of performing hysterectomy, that which he had adopted of late was to first tie the vessels in the ligaments and about the base of the ovaries, beginning with those next to the uterus, and then remove both ovaries. Next, to lift the tumor, and, if he was able to get a pedicle or stump, to secure it by means of a temporary ligature, after which he cut the tumor down until two flaps were retained, which were united. The whole was then secured firmly with a carbolized ligature, and the pedicle returned to the abdominal cavity. If unable to do this, and he was obliged to leave the stump outside, he used Kœberlé's *serre-nœud*, closing the wound thoroughly around it, sometimes introducing a drainage tube. But the results of the operation in this country were not good—why they were not better, he was unable to say. Again, he thought the surgeon could not be too careful about resorting to hysterectomy merely for the purpose of saving the patient from the dangers of hæmorrhage. Hæmorrhage occurring with large tumors might be reduced or arrested by the use of the curette. He had seen hæmorrhage entirely controlled for some time by curetting the endometrium thoroughly, and the tumor had been prevented from causing death through that complication. Furthermore, an immense subperitoneal or interstitial fibroid might be accompanied by a submucous polypus which gave rise to the hæmorrhage, and when the polypus was removed the hæmorrhage would cease. With regard to oöphorectomy, the surgeon should be careful about performing it in cases in which the ergot treatment had been adopted previously; for in some of these cases sloughing of the central part of the tumor had occurred; sometimes there

was quite a large necrosed portion at the very heart of the tumor, and if the operation should be performed under such circumstances the chances for the patient's recovery would be very poor. As we were not advancing with regard to hysterectomy, he thought the method presented by Mr. Thornton should have a full and fair trial. He had never performed oöphorectomy for uterine fibroids, but had resorted to the operation several times for the relief of other symptoms. Between these two operations, however, he felt hardly warranted, with the evidence as it stood at present, in selecting hysterectomy.

Dr. GILMAN KIMBALL, of Lowell, Mass., said that he was the first to perform hysterectomy in this country, and he did so intentionally, and the patient made a good recovery. The history of the case was then given. He performed the operation because it seemed to him to be the only one that afforded any chance of saving the patient's life. A small incision was made, the tumor was drawn forward, the solid part was enucleated, the collapsed cyst was drawn through the abdominal opening, the pedicle was ligatured and returned, with the ligatures left hanging outside. Some of the ligatures remained eighteen months before coming away, and yet in less than six months after the operation the patient was about the house and able to do her ordinary house-work. For aught he knew, she was yet living and well. Dr. Kimball then gave brief histories of four other cases in which he had performed the operation, and the patients all recovered. It was his rule, however, that nothing except the most extraordinary circumstances could induce him to resort to the operation.

Dr. G. J. ENGELMANN, of St. Louis, said that, although the success of hysterectomy in Europe had been better than in this country, it had not been so great there as that given by oöphorectomy. He asked if the symptoms of shock noticed by Dr. Goodell, while making traction upon the ovaries, were not a natural result, and one which was harmless, and need not necessarily interfere with the administration of the anæsthetic? It had been stated by surgeons that the same thing occurred when traction was made upon the spermatic cord in cases of castration.

Mr. THORNTON said that he agreed thoroughly with Dr. Thomas in what he had stated concerning the operation for solid or any uterine tumors. It should not be undertaken except in extreme cases, and it was for that reason that he was particular in giving the conditions which he thought justified it in the cases he had reported. He was prepared to receive the views of Dr. Thomas and Dr. Goodell concerning enucleation and oöphorectomy, but thought that he should hesitate before including such cases as the most suitable for hysterectomy. He was particularly struck with Dr. Thomas's remark concerning sloughing of the center of the fibroid in patients who had been subjected to the ergot treatment. He had not seen that condition, and it seemed to him that there would be something to indicate its existence before it became necessary to perform any operation. With regard to the false menstruation, it had been very puzzling, but it had seemed to him that it occurred proportional to the hæmorrhage which took place before the operation; that is, if hæmorrhage had been profuse before, considerable false menstruation might be expected afterward, and the opposite. He favored removal of both ovaries. He did not agree with Dr. Thomas concerning the treatment of the stump, and thought that the risk to life was much less by bringing it to the outside; and, further, he thought that was the general opinion among operators in Europe. He had not noticed shock coincident with ligation of the pedicle or traction upon the ovaries, but had seen marked symptoms of

shock produced when the cul-de-sac had been roughly sponged out, due, as he thought, to pressure upon the nerves. This had been such a common observation with him that he usually said to his assistant, "I am now going to sponge out the pelvis; please be careful with the anæsthetic."

(*To be continued.*)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

A STATED meeting was held October 5, 1882, Dr. T. M. DRYSDALE, Vice-President, in the chair.

Dr. W. GOODELL exhibited the specimens and gave the histories of the following cases:

RENAL CYST.—Mrs. C. M. G., aged fifty-two, married for twenty-eight years, has had three children, the youngest of whom is twenty-five years old. For many years she has had pain in the left renal region, and sharp attacks of gravel. This pain was so increased by jolting that she was unable to ride even in a carriage with double springs; but she has never experienced the excruciating pain of a stone passing down the ureter; of this she is positive. Four years ago she began to enlarge, but she did not suspect a tumor. As her health grew worse, she came on from the West, and last July consulted Dr. J. F. Bird. He recognized a cyst, and called Dr. Goodell in to see her. Despite her age, her catamenia were not only regular but too free. Dr. Goodell expected to find a fibroid, but the womb measured only three inches, and it was also very movable and wholly independent of a large cyst which filled up the abdomen like an eight-months foetus. The lower edge of the cyst could be felt *per vaginam* lying in front of the womb. Percussion elicited all the phenomena peculiar to ovarian cysts. Coronal resonance was marked. There was dullness in front, showing the complete absence of intestines from that region, their presence being alleged to be one of the most trustworthy signs of a renal cyst. As the lady stated positively that there were changes in the size of the tumor, Dr. Goodell was more disposed to regard it as a cyst of the broad ligament than as one of the ovary.

The operation was performed on September 16th. As soon as the cyst was reached it was ascertained that it was not ovarian or parovarian; but it was fully fifteen minutes before its true character was discovered. The cyst was covered with a very vascular but loose layer of peritonæum, to which in the lateral regions the intestines were attached, and in which they seemed to be imbedded. This was cut open and stripped off from the whole cyst, which now revealed on its lower border an expanded and healthy portion of the left kidney. To confirm the diagnosis, a small calculus was found within the cyst, and a much distended ureter was discovered. The pedicle formed by this process of enucleation consisted, below the ligature with which it was secured, of the renal blood-vessels enveloped in connective tissue. But, to get a button of tissue sufficient to prevent all slipping of the ligature, the operator was obliged to leave on its distal side a small portion of the cyst, but none of healthy kidney.

It was evidently a case of hydronephrosis, but the uterine sound was passed into the ureter and no obstacle was met with; it probably did not reach the bladder. This ureter was brought out at the lower angle of the wound and secured there by one of the sutures. Nineteen days have now elapsed since the

operation, and the lady has done uniformly well and sat up to-day for the first time.

HYDATID OF MORGAGNI.—The lady from whom this specimen was taken was operated on by Dr. Goodell on September 4th. and promptly recovered. The cyst was of the left ovary, but the right one, being also diseased, was removed. Attached to one of the fimbriae of the oviduct is a very beautiful specimen of a hydatid of Morgagni. This little body, so often found attached to the ovary, is of interest because those small cysts of the abdomen which, after attaining a small size, burst and usually refill, are, in Dr. Goodell's opinion, cysts of this hydatid.

CYST OF THE PAROVARIUM.—This specimen was taken from a young woman aged twenty-two. The tumor was first noticed eight years ago. Dr. Goodell aspirated her before the clinic at the University of Pennsylvania in October, 1880, and November, 1881. On each occasion a perfectly limpid fluid was removed, and the diagnosis was consequently made of cyst of the broad ligament. As the cyst filled again, the patient demanded its removal, and she was accordingly operated on before a ward-class on September 19th. The cyst sprang from the left side, and had the usual delicate and vascular wall. Spread out on its lower border is the corresponding ovary, which might very readily be overlooked by a careless observer. The right ovary, being much enlarged and filled with small cysts, was also extirpated. When first removed it contained a fine corpus luteum, but the alcohol has dissolved this out, leaving merely the deep pit which held it. The operation was performed just two weeks after her last monthly period. The usual metrorrhagia occurred on the fifth day after the operation. The patient is convalescent.

PAPILLOMATOUS UTERINE GROWTHS.—Dr. W. H. PARISH exhibited two vials containing apparently similar growths removed from the endometria of two patients, one of which, from concurrent symptoms, he considered benign, but the other he thought malignant. In the first case menstruation had ceased for a year, after which it had returned and become constant and profuse. The patient had suffered from prolapse following labor twelve or fifteen years ago. Dr. Parish dilated the uterus with two sets of sponge tents, after which he introduced his finger and found a number of elevations as large as a pea; some of these he removed by means of curettes, and others by seizing them by forceps and twisting them off. Some metritis followed the operation, but no blood has been lost in the last four weeks.

The second specimen was removed from a carcinomatous uterus by means of the curette and the écraseur.

Dr. GOODELL remarked that he did not allow the revelations of the microscope to govern him in his treatment of bleeding uteri. He had had under his care recently three such cases, all of which were reported by noted microscopists to be carcinomatous, but one of the patients was entirely cured by local measures. In one case of lacerated cervix, with ectropium and free hæmorrhage, which was pronounced undoubtedly cancerous by a microscopist of high repute, the patient was relieved by scraping, and cured by operation. In another case, pronounced to be one of cylindrical epithelioma by the same gentleman, the patient recovered after operation. Dr. Goodell added: A patient of Dr. C., while in this city, was referred to me for examination as to the cause of persistent menorrhagia. Ether was given, a careful and thorough examination was made, and the round and sharp curettes were used, but I could find no cause for the hæmor-

rhage except a few minute granulations. This class of cases is usually found among stout or plethoric women, and the hæmorrhage will recur after any treatment, although temporary benefit can be obtained. When the curette is passed over the walls of the uterus it exercises a tonic effect, and a contraction results, checking the hæmorrhage.

Dr. ALBERT H. SMITH had had under treatment a number of cases of marked antelexion, generally in young girls, in whom dysmenorrhœa was followed by very profuse menorrhagia, which proved very exhausting, and would not yield to internal remedies. Examination showed no recognizable cause, but a stem-pessary secured entire relief in a few months. He had seen six such cases within the last three years. He had had under treatment cases resembling epithelioma of the uterus, in which the introduction of a large sponge tent had resulted in complete cure, and secured the cessation of profuse and previously uncontrollable hæmorrhage.

Dr. PARISH remarked that some cases of incurable hæmorrhage were due to inflammatory adhesions of the uterus to the surrounding tissues, which disturbed the circulation and modified nerve action. He considered the smooth-wire curette a valuable aid in diagnosing the condition of the endometrium, as its passage over the uterine wall would distinguish between healthy and unhealthy uterine tissue. A patient suffering from uterine hæmorrhage for three weeks, following a possible miscarriage at three months, was cured by one application of the smooth curette, which brought away some granular matter.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held June 6, 1882, Dr. CHARLES C. LEE, President, in the chair.

Dr. B. McE. EMMET reported further on the case of Battey's operation, related at the last meeting. The patient had been doing well, and doubtless would have gone on to complete recovery from the operation, but, being exceedingly anæmic and of low vitality, a mural abscess had formed which had opened into the abdominal cavity, and she died on the ninth day.

The PATHOLOGIST read a written report on the specimens presented by Dr. Dawson at the last meeting. [The report, together with Dr. Dawson's account of the case, will be given in a future number of the journal.]

UNUSUAL DEFORMITY OF THE CHEST.—Dr. A. JACOBI presented a girl, aged thirteen years, with the following history: The midwife said that at birth she weighed fifteen and three quarters pounds. At all events, she was a very large child. She began to walk when sixteen months old, and teeth appeared by the fourth month, the first one being a lower incisor; at twelve months she had ten or twelve teeth. She developed well until two years and a half old, when glandular swellings appeared about the neck, and formed a large number of abscesses, the scars from which had caused considerable disfigurement. Since that time the chest had, so to speak, undergone a retrograde development. It had first become flattened, afterward drawn inward, the sternum forming the deepest part of the excavation, and the clavicles projected greatly. The following measurements had been taken: From midway between the clavicles, just above the manubrium sterni, to the spinous process of the third dorsal vertebra, three

inches and a fifth; from the lower edge of the manubrium sterni to the spinous process of the seventh or eighth dorsal vertebra, four and a quarter inches; shortest line from the ensiform cartilage to the vertebral spinous process, four and a half inches. The respiration in some places was simply puerile; in some very coarse; a few râles might be heard. The heart-beat was unusually distinct, not because of hypertrophy, but because of contraction of the chest-walls, which brought the ribs more closely in contact with a large surface of the organ. The question arose as to what this peculiar deformity, occurring in a girl who was very large at birth, and who developed quite normally up to two and a half years of age, was due to? It was apparent that the ribs were shorter than normal; that the clavicles were of about the normal length, but had developed two large curves each for want of proportionate development of the chest. The first explanation of this peculiar shortening of the ribs which suggested itself was premature ossification of the cartilages. This occurred not infrequently, and that it was the correct explanation in this case seemed to be supported by the fact that the teeth appeared unusually early. On the other hand, when early protrusion of the teeth indicated early ossification, the bones of the cranium also became ossified early, and the head remained small, whereas in this case, it was stated, the head was unusually large. Again, this child learned to walk at rather a late period. It was stated that at one stage of her growth she rubbed the hair off the back of the head, which would point to rachitis rather than to early ossification. He had, therefore, given up this explanation, but he wished to state that early ossification between the ribs and their cartilages was not uncommon, and that when it occurred it prevented full development of the chest and lungs, giving occasion to the so-called *habitus phthisicus* and to frequent attacks of bronchitis, and finally resulted in many instances in phthisis in after-life. The more probable explanation of the case was that the extensive glandular inflammation, the remains of which were apparent in the neck, had extended to the bronchial and mediastinal glands, thence more or less to neighboring parts, where new hyperplastic tissue was formed, which cicatrized and contracted, and interfered with the further development of the thoracic contents, particularly the glands and the lungs. It was an anatomical fact that the mediastinal and other glands within the thorax were much more numerous than was commonly supposed, and, being thus affected, might cause very considerable deformity by checking the growth of the chest-walls and drawing the anterior portion inward or backward in this extraordinary manner. An illustration of deformity of the chest in less degree, due to changes which took place within the thoracic cavity during childhood, was seen in many cases of supposed phthisis in the adult, where the upper part of the chest-wall, more frequently on the right side, was sunken in, and gave a percussion note of dullness, as of a cavity, but really of a dilated bronchial tube, the pathological process leading to the change having its beginning with an interstitial pneumonia in early life. The innutrition from which this girl was suffering was due in part, doubtless, to the destruction of the lymphatic structure. The patient had just stated that one leg was shorter than the other, a fact to which his attention had not been called before, and which he would investigate and report upon subsequently.

BATTEY'S OPERATION.—The specimen was presented by Dr. P. F. MUNDÉ, on behalf of Dr. G. H. Balleray, of Paterson, New Jersey, in whose practice the case had occurred, and who was present by invitation. An abstract of the written history was read, as follows: The patient was thirty-three years of age, had been

married a number of years, and during the past seven was a widow. She had never borne children. She suffered greatly at her menstrual periods, which were irregular, occurring sometimes, but seldom, during the year. For some time past she had suffered from severe pains which radiated from the pelvis down the thighs and upward to the breasts. The various physicians who had been consulted had not been able to give relief. During the last nine months the pain had been almost constant, and of late she had been confined to the house, being unable to walk across the floor without suffering extremely for hours afterward. All the organs of the body were normal, except the uterus, which was indurated, the cervix being of a purple hue from venous congestion, and the ovaries, which were enlarged. Quinine, arsenic, electricity, etc., were resorted to without benefit, and the conclusion was reached, in February last, that oöphorectomy offered the only means of giving relief. The operation was rendered difficult by the shortness of the pedicle. The left Fallopian tube was removed with the ovary; the Fallopian tube on the right side was allowed to remain. The patient recovered, all pain was relieved, and she had gained nineteen pounds in weight in two months. One of the cysts of the right ovary burst during its removal. Dr. Balleray was unable to explain the connection between the symptoms and the condition of the ovaries. In no one of the several cases at which he had assisted in removing the ovaries had pain been so severe a symptom as in this one.

Dr. MUNDÉ also presented for Dr. Balleray a specimen of polypus of the bladder from a child two years of age.

ELEPHANTIASIS OF THE VULVA.—This specimen was presented by Dr. MUNDÉ, who had removed it from a colored woman at Mt. Sinai Hospital ten days before. She was twenty-four years of age, had been married seven years, and had had four children and one miscarriage. Six years and a half ago, when about four months pregnant with her first child, she first noticed an enlargement of the whole supra-vulvar region. It increased in size until confinement, after which it disappeared gradually but entirely. After two years it returned, while she was carrying her second child, this time remaining until it was removed. It annoyed her chiefly because of two ulcerations which formed upon it, and made her anxious to have it removed. Her physician suspected epithelioma, but the patient's history and general condition did not sustain this opinion. Feeling certain that it was an elephantiasis of the vulva, Dr. Mundé recommended its removal, which was done by first passing three long needles underneath the growth, and drawing an elastic ligature tightly under them, encircling the tumor. By this means hæmorrhage was controlled while the tumor was removed. About a dozen arteries spurted and were tied, some of the ligatures being turned downward, and others upward, thus avoiding a large canal in the center, and obtaining better union by first intention. When the elastic ligature was loosened the first gush of blood was considerable, especially from a large artery and vein near the clitoris. Union seemed to have taken place throughout by first intention, but as the ligatures had been passed deep they had not yet come away. He had not seen this method of operating with a view to the prevention of loss of blood mentioned in the literature of the subject. The usual method of operating was by the cauterizing wire, but the healing process afterward was very tedious. Schröder some years ago operated in a manner somewhat similar, passing deep sutures from below upward as the operation was proceeded with, and thus arresting hæmorrhage. Union, however, did not take place by first intention, and for the reason, probably, that the tumors were of a syphilitic

nature, which was not true in this case. He understood Dr. Foster had employed Schröder's method with success. An interesting feature of this case was the over-excitement of the sexual passion, which made the patient's husband also desirous of having something done for her relief.

Dr. FOSTER stated that in the case referred to by Dr. Mundé he tried Schröder's method, but found it impracticable to introduce the sutures on account of the great gaping of the wound from tension.

Dr. T. A. EMMET remarked that he had removed such a tumor, weighing over two pounds, by first passing silver-wire sutures entirely behind it, and twisting them as fast as the incisions were made, thus controlling hæmorrhage.

Dr. M. A. Pallen said that he had removed a large thrombus, which had existed sixteen months, by passing a double silk suture, or cobbler's stitch, deep behind the growth, and afterward dissecting the tumor off, without occasioning any hæmorrhage. He recommended it in a paper, at the time, as the best means of dealing with such tumors when they interfered with the expulsion of the child, or obstructed the orifice of the vulva.

The PRESIDENT remarked that in certain cases of very large condylomatous masses on the vulva, in patients at Charity Hospital, the hæmorrhage, on removing them with the scissors, was very great, in one instance nearly proving fatal. To avoid this trouble the elastic ligature had been used a few times, and the result had been all that could be desired.

THE RELATION OF THE PELVIC VISCERA AT THE FULL TERM OF PREGNANCY.—Dr. W. M. POLK presented a specimen illustrating certain investigations which he had been making with regard to the operation of gastro-elytrotomy. It had been removed from a woman who had died recently at full term from placenta prævia, and consisted of the pelvis and its contents, arranged as they were when he performed gastro-elytrotomy upon the dead subject. His principal object was to show that the peritonæum at this time did not dip so low down into the pelvis as in the non-pregnant state, but was lifted up by the development of the gravid uterus, so that it scarcely descended below the pelvic brim in any degree, and could easily be raised so as to allow of the extraction of the child below it. It was also shown that the ovarian vessels and the round ligament could be pushed aside out of the operator's way without injury. Indeed, if the round ligament were divided, it would probably be of but little consequence. The ureter was not in the way, being below the pelvic brim at the side. He was also able to demonstrate the complete manner in which a thorough vaginal tampon would control hæmorrhage in cases of placenta prævia.

OPERATION FOR PROCIDENTIA UTERI.—The question of the treatment of prolapsus of the uterus by Le Fort's method having been discussed at the last meeting, Dr. Pallen wished to demonstrate by drawings his method of operating for the relief of this condition, and also of all degrees of laceration of the perineum. He had employed it with success during the past nine years in sixty cases of laceration down to the sphincter, in three of rupture through the sphincter into the rectum, and in nine of complete procidentia of the uterus. Of two patients belonging to the latter class, one was sixty-three and the other seventy-four years of age, and the operations were done under unfavorable circumstances, in the amphitheatre of the university, whence the patients were removed to their homes in the city, but the results were eminently successful. On either side of the vulva a flap incision was made, embracing the transverse perineal skin, which was dissected up; and, instead of being entirely removed, as in the common

operation, the flaps were so folded, raw surface to raw surface, as to make a shelf on the anterior wall of the vagina, upon which the uterus rested, and at the same time serving the purpose of thickening and strengthening the perineal body. Fine silk sutures were used for the flap, which cut out upon the vaginal surface, and deep silver wires for the perineal structure proper. No tissue was removed, and it was almost impossible after the operation for the uterus to fall. Thus far, all the procidentia patients had been cured, and no sign of relapse had been observed. The higher the dissection between the posterior vaginal and the anterior rectal walls the stouter the perineal cone, and the farther forward was the posterior vaginal wall thrown up on the vulva. The operation for perineal laceration invariably left the woman with a cushion or pad of tissue, thicker than the normal structures, which readily yielded in parturition, and which did not interfere with any of the functions necessary to the uses of the organism usually implied under the term *perinæum*. The operative procedures required nicety of dissection and delicacy of manipulation, but no more than any other plastic operation about the female genitalia.

Dr. MUNDÉ remarked that the method was very much like that adopted by Bischoff, of Basle, with the exception that the latter removed the skin at either side of the vaginal opening, and then united it to form the surface of the *perinæum*.

HENRY J. GARRIGUES, M. D.,

B. F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex-officio*,

Committee on Publication.

NEW YORK SOCIETY OF GERMAN PHYSICIANS.*

A STATED meeting was held November 25, 1881, Dr. SCHARLAU in the chair.

FOREIGN BODY IN THE EYE.—Dr. OPPENHEIMER presented an elderly man, who had carried a splinter of steel in his eye for nineteen years without pain or inconvenience of any kind. The foreign body was located in the anterior capsule of the lens; the iris was adherent; the patient's eyesight quite good. Dr. Oppenheimer remarked that it was rare to find a foreign body tolerated in the eye, the danger being so great that it should be removed promptly. Dr. Hotz, of Chicago, had reported a similar case some years ago, in which a fragment of a percussion cap was carried in the eye for many years.

TROPHO-NEUROSIS OF THE FIFTH NERVE.—Dr. JACOBY presented a girl, twelve years old, afflicted with *albinismus facialis acquisitus*. The patient had always enjoyed good health. Some months ago she was subject to daily attacks of headache and photophobia, lasting until about four o'clock P. M. On the fifteenth day of her suffering a white spot made its appearance in the skin over the malar bone; her eyebrows and lashes gradually turned white on the left side of the face, and her neuralgia became localized over the supra- and infra-orbital regions. There was normal galvanic reaction, and no vaso-motor disturbance. The administration of quinia and arsenic and the use of the galvanic current had been attended with some improvement, and the eyebrows were slowly regaining their natural color.

CEREBRO-SPINAL MENINGITIS.—Dr. HEINEMAN presented several specimens.

* Owing to an oversight on the part of the Secretary, the proceedings at these two meetings appear now out of their proper sequence.

A boy, fourteen years old, was taken sick with fever and vomiting; on the third day his body was covered with a rash; on the following day his temperature was 106° Fabr., and he died. A purulent meningitis was found post mortem, also a small abscess near the mitral valve in the heart, and a similar abscess in one of the kidneys.

RUPTURE OF THE INTESTINE.—Dr. HEINEMAN showed three specimens. The first was taken from a child seven years old, which was run over by a wagon and killed. Post mortem, a large rent in the posterior aspect of the duodenum was found, also general peritonitis. ===== The second specimen was taken from a man who lived six days after receiving a severe kick from a horse. In this case the ileum was the seat of rupture. ===== The third specimen was much like the second. It was removed post mortem from a man who was killed by falling from a height of forty feet.

LARGE SARCOMA OF THE TESTICLE.—Dr. SEIBERT exhibited a large tumor which he had removed from a man fifty years old. The patient first noticed an enlargement of his left testicle, about one year previous to the operation. On examination, the tumor was found to extend high up into the inguinal canal; it was not firmly connected with the surrounding tissues, and could be moved in any direction. The operation was performed with antiseptic precautions, and the vessels of the cord were tied separately with silk ligatures. Quite a number of large veins were encountered. The wound healed by primary union, the result being in every way satisfactory. The microscope showed the tumor to be a round-celled sarcoma. The normal structure of the testicle had entirely disappeared.

VAGINAL DEPRESSOR.—Dr. GARRIGUES showed a vaginal depressor to be used in combination with Sims's speculum. It was simple in construction, and so arranged that speculum and depressor could both be held with one hand, leaving the other hand free. It could readily be cleansed, and was suitable for dispensary practice.

SECONDARY TRACHEOTOMY.—Dr. DEGNER reported this case. In June last he performed tracheotomy on a child four years old for laryngeal diphtheria. Dr. Caillé administered chloroform, and had no difficulty whatever in getting the child under the influence of the narcotic. The patient made a rapid recovery, and was pronounced well after three weeks. Fourteen days later, a croupy cough with dyspnoea was again noticed in the child, especially at night. These symptoms persisted for several weeks, and became so severe that it was found necessary to open the trachea once more. When the child was placed upon the table it struggled so violently that it was impossible to administer the anæsthetic. Dr. Caillé laid aside the chloroform-napkin, in order to pacify the little patient, when he suddenly stopped his struggles, became perfectly colorless, and ceased to breathe. The trachea was promptly opened, artificial respiration was kept up for one hour; ether, spirits of ammonia, and nitrite of amyl were given by hypodermic injection, the faradaic current was applied to the phrenic nerve, etc., but all to no purpose—the child was dead. Post mortem, several large granulations were removed from the trachea.

Dr. BLIXEN remarked that a dyspnoea of several weeks' duration was sufficient cause for the child's sudden death from paralysis of the heart, in consequence of chronic intoxication with carbonic acid.

Dr. OBERNDORFER remarked that paralysis of the heart after diphtheria was not rare, and frequently produced a fatal result where it was not anticipated.

Dr. JACOBI said that post-diphtheritic paralysis might be recognized *intra vitam*. As no autopsy had been made in the case presented, the cause of death must remain obscure. When death took place in consequence of fright, no anatomical lesion was found. As the child did not actually inhale the anæsthetic previous to the second operation, it could not have been a death from chloroform. Chloroform was well borne by children, and relieved dyspnœa. Referring to the seat of the granulations in the trachea, Dr. Jacobi cited a case in his own practice in which orthopnœa was present only at night. Although the laryngoscope showed no evidence of an obstruction, a polypus of the anterior tracheal wall was suspected and found at the operation. It was so located as to obstruct respiration as soon as the child was put to bed at night in a horizontal position.

HOSPITALS FOR CONTAGIOUS DISEASES.—Dr. JACOBI discussed at some length the question of preventable disease, dwelling upon the necessity of providing hospitals for the proper treatment of children suffering with contagious disorders, especially scarlatina and diphtheria, in all large cities. Isolation and intelligent care were needed for the poor and the rich, in order to prevent the spread of these diseases. Pecuniary aid had been promised for the establishment of such an institution in New York. Dr. Jacobi requested all the gentlemen present to send him the history of such special cases occurring in their practice as would convince the public and the Legislature of the necessity of a special hospital for contagious diseases in our city.

Dr. A. G. GERSTER, *Secretary*.

A STATED meeting was held December 23, 1881, Dr. GRUENING in the chair.

Dr. W. KUDLICH exhibited the left lung of a man, fifty years old, who had died suddenly; he complained of difficulty in breathing, and was dead before a physician arrived. The man was very fat, weighing above three hundred pounds. With the exception of a sharp attack of pleurisy, some years ago, he had never been sick. At the autopsy, the left lung was found no larger than a man's fist, and entirely surrounded by a thick and dense membrane. This sac-like membrane also contained a large fibrinous clot. No important changes were found in the right lung and larger vessels.

Dr. RUDISCH thought that death resulted from embolic closure of a vessel in the right lung.

Dr. KUDLICH remarked that he held the same opinion, although nothing of the kind was found on examination.

AN OVUM OF TWO WEEKS.—Dr. SEIBERT showed a complete ovum, which was expelled from a woman who believed herself to be five weeks pregnant. The sac was as large as a filbert, the embryo not quite 2 mm. long. The egg was evidently not more than two weeks old.

FOREIGN BODY IN THE LARYNX.—Dr. GRUENING showed a fragment of bone which he had removed from the larynx of a woman. The patient experienced at the dinner-table the sensation of swallowing a bone, and had a sharp attack of dyspnœa. This soon passed off; slight pain in swallowing persisted, however, for which she consulted Dr. Gerster. He explored the œsophagus, and, not finding a foreign body, sent the patient to Dr. Gruening, as the symptoms were not urgent. Dr. Gruening found a piece of bone impacted between the vocal cords, and succeeded in removing it, after several attempts, with the forceps. Aphonia persisted for several days without pain. The removal of impacted foreign bodies from the larynx should always be attempted by forceps before performing tra-

cheotomy; this operation should not be performed *at once* for the removal of all kinds of foreign bodies of the larynx, as advised by Schüller.

Dr. GERSTER remarked that Schüller's advice was practically good, and applied to practitioners in the country and small towns, where a skilled throat specialist was not always at hand.

Dr. OPPENHEIMER showed a rubber plate with two artificial teeth attached which he had removed from the larynx of a woman, fifty years old, by means of Mackenzie's forceps, its extraction being accomplished by force, as it was firmly impacted between the cords.

FOREIGN BODIES IN THE KNEE JOINT.—Dr. GERSTER showed a hard cartilaginous body, about 2 cm. square, which he had removed from the knee joint by an incision under antiseptic precautions. Primary union took place with no functional disturbance. A second specimen, removed in the same manner and with good result, consisted of several pieces of a fungus-like mass, taking its origin from the inferior border of the knee-cap. The patient was a girl, fourteen years old, who complained of occasional swelling of the knee with severe pain. Dr. Gerster discussed at length the advantages of the antiseptic method in surgery, so universally practiced in Europe, and so little recognized and adopted in our own country. This might be accounted for, if we remembered that our large American hospitals were not institutes of learning in the strict sense of the word, with statistical reports of results achieved. Our hospital surgeons had a short term of service, which did not permit of a fair comparison of the results of one method of treatment with those of another. If the good work done in our American hospitals would bear comparison with that of the older institutions of Europe, it was in a great measure due to the excellent hygienic conditions under which they were kept.

TAPPING THE MASTOID PROCESS.—Dr. KNAPP was consulted by a young lady, sixteen years old, who had suffered from severe headache for several months. On examination, otitis media with partial deafness was detected; the tympanic membrane had a cloudy appearance, but was not perforated; pressure over the mastoid process caused pain. He proceeded to tap the bone, and found the periosteum and surface of the bone not diseased. The bone itself was very hard for a distance of a quarter of an inch, and then was found spongy. After penetrating to the depth of 7 mm., a copious flow of dark blood took place. Believing that he had perforated the sinus lateralis, he discontinued the operation, inserted a tube, and closed the wound. It healed by primary union, and the girl's troublesome headache was entirely gone. Dr. Knapp remarked that a localized and continuous severe headache was usually a good indication for tapping the mastoid process. Wilde's incision would afford relief where the periosteum and the superficial bony tissue were diseased. In conclusion, he said that all his operations were performed without antiseptic measures, and his results were excellent.

Dr. GERSTER replied that a wound which was perfectly clean was an aseptic wound. The small wounds and cuts which were usually made into and around the eye and ear were not so liable to become septic as the large and extensive wounds with which the general surgeon had to deal. Dr. Knapp, therefore, carried out the antiseptic method unintentionally, for his results showed that, by being scrupulously clean in his methods of operation, he was able to avoid septic infection.

Dr. GRUENING said he doubted very much if the sinus lateralis was injured in

Dr. Knapp's case, for a copious hæmorrhage from bony tissue in a state of inflammation was not rare. Furthermore, he wished to state that Wilde's incision did not always afford relief, in his experience. In many cases, when the periosteum was found inflamed, the mucous lining of the mastoid cells was congested, for which it was best to tap the bone.

Not long ago he performed this operation on a young man whose hearing was good, and whose middle ear was not diseased. The parts around the mastoid process were swollen and painful. Although the patient admitted a syphilitic infection, he got no relief from mercury and potassium iodide. Wilde's incision did not afford relief, although the periosteum was found much thickened, but after tapping the bone, which was quite normal, all unpleasant symptoms subsided.

Dr. RUDISCH protested against the practice of excavating the mastoid process in cases similar to those of Dr. Knapp and Dr. Gruening, the success in these cases being probably due to simple local depletion, and nothing else.

Dr. KNAPP concluded the discussion by stating that in his case sclerosis of the cortex and congestion of the deeper parts of the bone were well marked.

Dr. A. G. GERSTER, *Secretary*.

Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY.

No. XXII.

By ANDREW F. CURRIER, M.D.

OBSTETRICS.

1. HART.—Note on the naked-eye anatomy of the female external genitals. [Obstet. Soc. of Edinburgh.] "Edinb. Med. Jour.," Sept., 1882.
2. HART, D. B.—On some points in the physics of the bladder and rectum; specially in relation to the structural anatomy of the female pelvic floor. *Ibid.*
3. YOUNG, P.—Graviditas serotina et præcox. *Ibid.*, Aug., 1882.
4. PANUM, P. L.—Et Tilfælde af formentlig Superfötation. "Nord. med. Ark.," xiv, 14, 1882.
5. KINNE, A. F.—A fœtus without an umbilical cord, and a novel arrangement of the membranes. "Detroit Clinic.," Aug. 23, 1882.
6. HARLOW, A.—An obstetrical phenomenon—crying of the fœtus in utero. "Michigan Med. News," Aug. 25, 1882.
7. SMITH, T. C.—Fœtal medication. "Med. and Surg. Reporter," Sept. 23, 1882.
8. MANN, M. D.—The management of an abortion. "Buffalo Med. and Surg. Jour.," Sept., 1882.
9. McKew, *et al.*—Removal of retained placenta after miscarriage. [Baltimore Acad. of Med.] "Maryland Med. Jour.," Aug. 15, 1882.
10. BARBOUR, A. H.—The diagnosis of advanced extra-uterine gestation after the death of the fœtus (with a frozen section). "Edinb. Med. Jour.," Sept., 1882.

11. RAINALDI, R.—Gravidanza extra-uterina tubo-addominale. "Gazz. degli Ospit.," July 23, Aug. 2, 6, 1882.
12. GODWIN, J. R.—Case of extra-uterine pregnancy. "Virginia Med. Monthly," Sept., 1882.
13. MONTAZ, L.—Tribut à l'histoire des bassins rétrécis par double luxation ilio-fémorale congénitale. "Lyon Méd.," Sept. 10, 1882.
14. CARAFI, J. M.—Bassin rachitique et scoliotique très rétréci (51 millimètres); opération de Porro; mort. [Soc. Anat., Paris.] "Progr. Méd.," Aug. 19, 1882.
15. DILLON, J. T.—A difficult forceps case, with a peculiar structural condition of the umbilical cord. "Brit. Med. Jour.," Sept. 16, 1882.
16. MACDONALD, A. D.—A new indicating axis-traction forceps. "Lancet," July 29, 1882.
17. GUÉNIOT.—Céphalotripsie et opération césarienne. [Soc. de Chir., Paris.] "Ann. de Gynéc.," Aug., 1882.
18. BECKWITH, F. E.—Thomas's operation—laparo-elytrotomy. "N. E. Med. Monthly," Sept., 1882.
19. SAVAGE, T.—A case of Porro's operation; recovery. "Brit. Med. Jour.," Sept. 2, 1882.
20. SANDERS, E.—Three cases of retained placenta. "Med. News," Aug. 12, 1882.
21. WALTER, W.—A successful case of transfusion of blood after severe post-partum hæmorrhage. "Brit. Med. Jour.," Sept. 2, 1882.
22. JENNINGS, C. E.—The intra-venous injection of fluid for severe hæmorrhage. "Lancet," Sept. 16, 1882.
23. SPAETH, J.—The pathology of puerperal eclampsia. "Med. News," Aug. 5, 1882.
24. SPAETH, J.—The pathology of puerperal eclampsia. *Ibid.*
25. SIREDEY, F.—Statistique du service des femmes en couches de l'hôpital Lariboisière. "Union Méd.," Aug. 10, 12, 15, 1882.
26. SLOAN, S.—Abstract of a lecture on oil of eucalyptus in midwifery practice. "Lancet," Sept. 2, 1882.
27. PAUSZKY, R.—On the prophylaxis of puerperal fever. "Med. News," Aug. 19, 1882.
28. NOBLE, G. H.—Abortive treatment of mammary abscesses, and the cure of fissured nipples by means of a new and effectual compress. "Atlanta Med. Register," Oct., 1882.
29. KÖNIGSTEIN, L.—Zur Prophylaxe der Blennorrhœa neonatorum. "Arch. f. Kinderheilk.," iii., 9, 10, 1882.
30. WILLIAMS, J.—Remarks on subinvolution of the uterus. "Brit. Med. Jour.," Sept. 2, 1882.
31. NELSON, D. T.—Subinvolution of the uterus—its causes, effects, and treatment. "N. E. Med. Monthly," Aug., 1882.

1. Dr. Hart recently presented to the Edinburgh Obstetrical Society a note on the *naked-eye anatomy of the female external genitals*. Anatomists have erroneously described the fourchette and labia minora as mucous membrane, the error arising from the changed appearance of the parts in the cadaver. In the living subject the line of separation between mucous membrane and the skin of which these structures is composed can be clearly seen. This line passes along the base of the inner aspect of each labium minus into the fossa navicularis, and in this neighborhood separates the fourchette from the mucous membrane of the hymen. The labia majora are in contact at the

lower part, whatever be the woman's posture; the same is true of the labia minora. The fourchette closes the lower commissure, and it is the exact apposition of the parts which is designed to have a protective influence upon extremely sensitive organs.

2. The same author, in a paper on *some points in the physics of the bladder and rectum, especially in relation to the structural anatomy of the female pelvic floor*, discusses various questions regarding each organ, and concludes by observing their bearing upon the structural anatomy of the pelvic floor. The first organ is considered under three heads: 1. Its position and shape, and its muscular arrangement, as well as

that of the urethra. 2. The nervous mechanism of the bladder and urethra. 3. The mechanism of the expulsion of the urine from the bladder. Under the first head he alludes to the fact that the urethra blends with the neck of the bladder at an angle of about 90° . The walls have three layers of unstriated muscular fiber, an external longitudinal, a middle circular, and an internal longitudinal, upon the last of which rests the vesical mucous membrane. The sphincter vesicæ surrounds the urethra, and has an outer stratum of circular and longitudinal unstriated muscular fiber, and an inner stratum of circular and longitudinal striped muscular fiber. Luschka also speaks of a special sphincter of the vaginal and urethral orifices. Hart makes a special point of the shape "of the empty female bladder," stating that he knows of no drawing or section of the empty male bladder. As this is quite important, we repeat his statement verbatim: "In the female the empty bladder has one of two shapes: it is either small, oval, and firm to the touch, with its upper border convex, or its upper surface is large and concave, the upper half fitting into the concavity of the lower. In the former shape the anterior and posterior surfaces of the mucous membrane are in contact; in the latter, the upper and lower halves (large in area) are in contact. On vertical mesial section, we find the mucous membranes of urethra and bladder forming, in the former shape, a curved slit, while in the latter they form a Y-shape, the posterior limb of the Y being sometimes the shorter." The bladder and urethra are blended with the neighboring organs, the union being loose as to the bladder, and firm posteriorly as to the urethra. As to the nervous mechanism of the bladder and urethra, the description must be imperfect without the geometrical diagram (Power) by which it is explained. Kupressow's experiments in dividing the spinal cord of rabbits at various levels are cited, to determine the sensory and motor centers. As to the mechanism of the expulsion of urine from the bladder, this is, in reality, indicated in the experiments already alluded to, at least in so far as the nervous element is concerned. In addition, "the muscular fiber of the bladder, by its contraction, aided by the intra-abdominal pressure, acting at right angles to its peritoneal surface, expels the urine." After this

the bladder relaxes and assumes the Y-shape referred to, in order to permit the entrance of urine from the ureters. The bladder has therefore a systole and a diastole. Concerning the rectum, intra-abdominal pressure compresses the anterior and posterior walls. The clinical proof of this is absolute, he says; for, if the pressure were exerted in the long axis of the rectum, vaginal pessaries would be forced out during the straining efforts at stool. [As a matter of fact, that is exactly what does occur, especially when the perinæum is ruptured or in a state of subinvolution. We can recall the case of a lady with unruptured perinæum who tried to wear a pessary, but said that it came away whenever she had a movement of the bowels.] It is of importance "to note that the anal axis cuts the vaginal and rectal axes at right angles." The rectum has musculares mucosæ, also circular and longitudinal unstriated muscular fibers. In addition to the external and internal sphincters of the anus, there is the third sphincter, about two and a half inches from the anus, and described by Chadwick as "two semicircular folds of mucous membrane with circular muscular fibers, lying one above the other, and on opposite sides." The sensitive part of the rectum is that which lies between the anus and the third sphincter. He thinks that the portion of the bowel which is especially engaged in defecation lies below the third sphincter; "that the contraction of this so-called third sphincter limits the eversion of the mucous membrane of the bowel, as well as helps on the passage of the rectal contents, and that it forms an upper boundary to the rectal ampoule, on which intra-abdominal pressure acts." Finally, he speaks of the bearing of what has been described upon the structural anatomy of the female pelvic floor. This is to be considered with reference to parturition, intra-abdominal pressure, and rectal and vesical functions. "In parturition the pubic segment is drawn up, and lies partially above the brim; in the non-parturient woman it is pushed against the sacral segment by intra-abdominal pressure." When this intra-abdominal pressure acts, it usually forces down the uterus and the pubic segment en masse, and is the main force in producing prolapsus uteri.

8. Dr. Mann, in his article on *the management of an abortion*, calls our

attention to a most important subject, such are the dangers attendant and consequent upon this condition. An abortion is always abnormal, because it interferes with a physiological act. In case an abortion becomes a necessity, the results are less serious when nature is assisted. In the first and second months of pregnancy, if an abortion occur, and hæmorrhage should be severe, the vagina may be tamponed, iodine may be applied to the interior of the uterus, and the curette may be used, if it be necessary to detach any lingering shreds. Rest and quiet for a few days are usually all that the patient needs. During the third month, when abortions are most common, great danger of hæmorrhage exists, as the placenta is quite well formed, and the larger part of it involves maternal tissues. After the fifth month the placenta is more easily separated from the uterine tissue. Two very different classes of abortions occur in the third and fourth months—one where the ovum escapes entire, the other where the sac ruptures and the fœtus escapes with the amniotic fluid. In the first case, which is the more infrequent at the period mentioned, preventive measures in the shape of rest, opium, and full doses of the fluid extract of viburnum prunifolium having failed, a tampon may be necessary if the progress of the case is slow, and the physician is compelled to leave it for some time. Should this have been omitted, and should the sac rupture, fatal hæmorrhage might occur. In the second case the flowing is usually severe. To stop it the finger must be passed into the uterus, and its contents must be detached, contraction usually following. If the cervix be not dilated, the best plan is to tampon the vagina, and wait for twelve or fifteen hours. If the placenta has not been expelled, and the flowing recurs when the tampon is removed, the vagina should be disinfected, the cervix should be dilated by tents, another tampon should be applied, and, after another twelve hours, the uterus should be entered and its contents removed. If the hæmorrhage does not cease at once, a hypodermic injection of ergot may be given, and it is good routine practice to wash out the uterus with hot carbolic water. If the hæmorrhage has ceased, and the membranes have not been discharged, five results are possible: 1. Gradual elimination with fre-

quent hæmorrhages. 2. Contractions at a subsequent period, possibly after some months, hæmorrhage, and expulsion. 3. Decomposition and blood-poisoning, or circum-uterine inflammation, either of which may make the patient an invalid for years. 4. The formation of a fibrinous polypus around the placenta. 5. Very rarely, absorption of all the placental tissue. The results which are most frequent are those which are detailed under the third class; hence it is good practice to clear the uterus thoroughly of all remnants of an abortion. Tamponing is most efficiently done with wads of common cotton (i. e., not absorbent cotton) which have been previously dipped in a weak solution of carbolic acid or of alum. If an alum solution be used, it may be strong enough for full astringent power. The author does not believe in the use of ergot as it is commonly recommended, but he approves highly of it under the conditions mentioned.

26. Dr. Sloan writes concerning *oil of eucalyptus in midwifery practice*: It is desirable to use antiseptics from the time that labor is concluded rather than to wait for symptoms of disease produced by septic absorption. He also gives, as a matter of routine, moderate doses of a mixture of morphia, nuxvomica, and ergot. He objects to carbolic-acid solutions for vaginal injections for the following reasons: 1. In the quantities required it would be poisonous. 2. It would cause severe irritation, and thus prevent the healing of lacerations. 3. It would coagulate the lochial discharge, causing its retention, even within the uterus. 4. It has an odor objectionable to many patients. Since Mr. Lister recommended the oil of eucalyptus (May 13, 1881) as a substitute for carbolic acid, the author has been using it in obstetric practice. The advantages in its use are: 1. It is not poisonous. 2. In the quantity and strength required it is unirritating. 3. It does not coagulate the lochia. 4. Its odor is pleasant. 5. It acts as a uterine stimulant, causing and assisting to maintain uterine contraction. The form which he uses is a pessary made from the following formula: Oil of eucalyptus, six drachms; white wax, four drachms; cocoa butter, four drachms; mix and divide into twelve pessaries, one of which is to be applied night and morning. Another formula is given in which the pessaries are one third weak-

er. [Even one third of a drachm of so potent a form of the drug as the oil seems to us pretty strong, especially when used twice daily. We should prefer to use the fluid extract]. One case is narrated where the pessaries of full strength were used for sixteen days. At the end of that time an erythematous rash appeared upon the entire body, and this disappeared upon discontinuing the eucalyptus. A case of pyæmia was also treated with eucalyptus with marked benefit. In this case the nature of the disease became manifest at the end of the third week. Quinine, aconite, and stimulants had been unavailing. Eucalyptus was given by the mouth and the rectum. On the twentieth day, the patient being quite low, hypodermic injections, hourly, were ordered, containing five minims of oil of eucalyptus and twenty minims of olive oil. In a short time she began to rally. The injections were then given with less frequency, and were discontinued on the fourth day. Soon she began to fail again, and the hypodermic injections were resumed. Great improvement followed, and she gradually recovered. If any calculations can be based upon a single case, the drug is destined to be of great value in a terrible disease. At any rate it is worthy of further trial.

30. Dr. Williams introduced a discussion on *subinvolution of the uterus* before the British Medical Association at its recent session in Worcester. He admits that very little is accurately known about this trouble. Involution, when normal, begins the fourth day after labor is completed, and ends in about eight weeks, the uterus having received new muscular fiber in the mean time, to replace that which has undergone fatty degeneration and has disappeared. When the normal course of events obtains, the uterus sinks into the pelvis on or about the twelfth day after delivery. Various observations have been made, and are cited by the author, as to the rate of diminution which the uterus undergoes. They can not have much value, as all are more or less inaccurate. The author wisely states that the disappearance of the uterus behind the pubes is not an infallible sign of healthy involution. He enumerates, as causes of subinvolution, general debility, advanced age, multiparity, premature delivery, protracted

labor, post-partum hæmorrhage, retention of portions of the placenta and membranes, laceration of the perinæum, bruising and laceration of the cervix, pelvic inflammation, too early exertion or over-exertion, displacement of the uterus, not suckling. In the author's service at the London General Lying-in Hospital there had been one hundred and thirteen deliveries from the beginning of this year to the time of writing. Of these, involution proceeded normally in fifty cases, in the others there was subinvolution from one or other of the causes given. Spiegelberg thinks that puerperal affections do not, as a rule, affect the process of involution. Heschl contends that, while puerperal diseases do not check degenerative and regenerative changes, the reconstruction changes do not follow a normal course, the new fibers tending to undergo fatty degeneration, instead of becoming consolidated. Goodell thinks that absolute rest in bed after delivery favors the development of puerperal diseases and bad recoveries; hence he has his patients get out of bed once or twice daily for the first four days, and then has them get up and dress. The results of subinvolution are hæmorrhage, dysmenorrhœa, and prolapsus. The preventive treatment consists in the removal of causes, when possible. Vaginal injections of hot water, containing a disinfectant solution, twice daily, will carry off poisonous material and prevent sepsis, and this accomplishes the end which Goodell claims for getting his patients out of bed soon after delivery—namely, good drainage. If there be an empty and a well-contracted uterus, absence of fever, and no open perineal wound, there is not likely to be subinvolution. — In the discussion, Dr. Playfair thought that sufficient stress had not been laid upon lacerations of the cervix as a cause of subinvolution. — Dr. Henry Bennett thought that an important cause of subinvolution was found in inflammatory lesions of the uterus and ovaries, existing prior to parturition. If these were removed, the uterus would be likely to perform its physiological functions after parturition. — Mr. Latimer added over-lactation as a cause of the disease in question. — Dr. Bantock added the occurrence of abortion to the list, also the use of a too stimulating diet, including alcoholic liquors. — Dr. Wallace said that

malformations of the uterus were attended by retarded involution after labor.===== Dr. Edis thought that an important point in the way of preventive treatment was to sustain the bodily powers during labor; hence the forceps should be applied as soon as they began to fail.

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7. Professor Simpson recently made a very interesting communication to the Edinburgh Obstetrical Society on *the uterine sound*. He states that "the introduction in practice of the uterine sound gives the clearest date for the birth of modern gynæcology." It not only enables one to diagnosticate displacements of the uterus, but it has led to the introduction and employment of tents and other dilators, of vulsellæ, and of systematic bimanual exploration. He considers his subject under five heads: 1. The information gained by use of the sound. 2. Therapeutic uses of the sound. 3. Characters of a serviceable sound. 4. Mode of using the sound. 5. Contra-indications. Under the first head, the sound supplements the eye and the finger in learning the condition of the cervix and its orifices. 1. It tells us whether the uterine cavity is in a normal or a pathological condition, as well from the feel of the walls, as it passes over them, as by the deviations from a recognized standard as to length. The importance of displacements in producing the well-known pelvic pain was first identified by it. It is most important in assisting in the diagnosis of tumors of the pelvic organs. 2. As to its therapeutic uses, he mentions the simple and safe lifting up of the uterus. He has always returned to its use after trying all other methods for accomplishing this end. It is often a means of

relief in dysmenorrhœa and amenorrhœa. By its aid medicaments of various sorts may be carried into the uterine cavity; and, when it is found necessary to bring on an abortion, the surest way is to pass the sound into the cavity of the ovum. 3. As to the characters of a serviceable sound, almost anything which is flexible and smooth may be used in an emergency. The silver probe is not considered so desirable an instrument as one made after the pattern given by Sir James Simpson, but the flexible copper is recommended in its manufacture rather than the stiff German silver, which was originally used. A ridge at two and a half inches from the end is better than a knob for identifying the normal depth, and a distance of five and a half inches from the ridge is quite sufficient for the length of the stem. 4. As to the mode of using the sound, it is presupposed that a digital and a bimanual examination have first been made. It may be introduced in a variety of ways. The perinæum being retracted, either the cervix may be seized with a vulsella or tenaculum, and thus steadied with one hand, while the other gently passes the instrument, or the cervix may be steadied with the index-finger of one hand, the other passing the sound. The semi-prone position is preferable for the operation. He also recommends examination with the sound in utero.

5. Its absolute contra-indications are pregnancy and acute inflammations. Other conditions may also exist which would equally contra-indicate its use.

8. Dr. Wilson introduced the subject of *tents in gynecological practice* before the Baltimore Academy of Medicine at the session of April 4th. There are three methods for the accomplishment of dilatation of the uterus: 1, Division of the cervix; 2, tents; 3, steel uterine dilators. One or all methods may be necessary in a given case. Simpson introduced sponge tents in 1849, Sloan introduced sea-tangle tents in 1862, and since then Sussdorff has introduced tupelo tents. Byford uses slippery elm, and also the pith of the corn-stalk, for making these instruments. Dr. Wilson considers tupelo the least dangerous for this purpose. When he uses sponge tents he covers them with gold-beater's skin, and makes several punctures in them with the point of a knife. The dangers from tents are peritonitis, cellulitis, endometritis, septicæmia, hæmatocele, nervous shock, tetanus, etc. They are best introduced through a Sims's speculum, the cervix having first been steadied with a tenaculum, and the course of the canal ascertained by means of the sound. He is in the habit of dipping the tent in a solution of carbolic acid in glycerin before introducing it. After the dilating power of the instrument is exhausted it should be at once removed, the uterus should be thoroughly washed out with carbolized water, and the patient should be kept in bed for several days. Dilatation may be called for in cases of intra-uterine fibroids and polypi, enlarged uterus, hæmorrhage from various sources, stricture of the internal os, dysmenorrhœa, sterility, and chronic endometritis. He thinks it very hazardous to introduce a tent just before menstruation has begun, and leave it until the period has passed.

9. Dr. Fraenkel proposes a *new procedure for making compressed sponge antiseptic*. Notwithstanding the danger of infection from the use of sponges in uterine therapeutics, they are often a very convenient and useful means in the treatment of metritis of long duration, encouraging resorption, acting as a tonic upon a flabby and weak uterus, and more effective under these indications than either tupelo, laminaria, or mechanical dilators. Iodoform was the substance which occurred to the au-

thor's mind as a means of rendering sponge tents aseptic. Two patients were chosen for the experiment—one a multipara with a soft, flabby, easily bleeding uterus; the other a primipara, forty-two years of age, with chronic hyperplastic metritis. The patients were placed in the knee-elbow position, the *uterine cavity* was washed out with a warm three-per-cent. solution of carbolic acid, introduced through a uterine catheter, and the tents were next adjusted. They were made of compressed sponge, prepared with cerate, rubbed with salicylated cotton, and were then covered with a thick coating of pulverized iodoform. After they had been introduced, a quantity of iodoformed gauze was placed in the vagina. Violent expulsive pains followed this operation, but no fever. The tents were removed after eighteen or twenty hours, and no bad odor was present. In two other cases the uterus was injected in a similar manner, and in the first of these a further injection of a syringeful of liquor ferri sesquichloridi was made with a Braun's syringe. In the second a like quantity of tincture of iodine was injected. Neither of the patients suffered any evil consequences from this treatment. [We do not think that the author's method of injecting the uterine cavity is to be recommended. With the patient in the knee-elbow position, there was the force of gravity, in addition to the injection force, which might be expected to impel the liquid into the Fallopian tubes, and thence into the peritoneal cavity. That no damage was sustained proves only that these particular patients were capable of enduring heroic treatment.]

14. Dr. Edis read a paper on *the rational treatment of menorrhagia*. His definition of the term menorrhagia was rather sweeping, including all uterine hæmorrhage excepting that which occurs at or about the time of parturition. [Menorrhagia would have been a more accurate term, if regard were had to its etymology.] Uterine hæmorrhage, aside from its appearance during the performance of a physiological act, is sometimes useful, on the same principle that bleeding is useful from other parts of the body under certain well-recognized conditions. Careful examination in all such cases should be insisted upon, as the treatment required may be surgical and not medical. The flowing is often found to proceed

from a polypus, or from a miscarriage in which complete expulsion of the ovum and its envelopes has not taken place. As a means of restraining hæmorrhage he recommends full doses of opium, and the application of cold or of pressure to the abdomen. Where extra-uterine gestation is probable, an exploratory abdominal incision may be necessary, in order to get at the source of the bleeding. Retroflexion and uterine congestion, among those who have borne children, is sometimes a cause, and may be treated by local depletion, hot-water injections, glycerin pads in the vagina, and a proper uterine support. When the bleeding is due to a uterine fibroid, the question of operative interference comes up, after drugs have failed to be effective. When epithelioma is the cause, as much of the mass should be removed with the *écraseur* or the curette as is possible, and this should be followed by an application of a strong preparation of iron, or by the actual cautery.

17. Dr. Herman offered for discussion before the London Obstetrical Society a paper upon *the relation of backward displacements of the uterus to painful menstruation*. When such displacement exists, menstrual pain is sometimes relieved by elevating and straightening the uterus. Three theories have been advanced as to the cause of pain during menstruation in cases of uterine displacement; one is that the uterine canal is narrowed at the point of flexion, and a mechanical obstacle is thus offered. This is invalid from a want of anatomical evidence that such obstruction ever occurs, except when the uterus is fixed by adhesions. Another theory is that the dysmenorrhœa is due to congestion from strangulation of vessels at the point of flexion. Anatomical evidence of this is also wanting. The third theory is that congestion takes place owing to pressure of the utero-sacral ligaments upon the veins running in the broad ligaments. One case has been recorded in which such pressure was found to have occurred; the arrangement of the parts would admit of such pressure; therefore the theory is supported by anatomical evidence, and explains clinical facts.===== Dr. Heywood Smith thought that the flexion caused symptoms only in the minority of cases. In one case he had divided the utero-sacral ligaments *per rectum*, and the uterus had remained

in its normal position.===== Dr. Matthews Duncan said it was a rare thing for the uterus to descend so as to be grasped by the utero-sacral ligaments.

18. Dr. Macan brings forward the much-discussed subject of *the rational treatment of anterior and posterior displacements of the uterus*. He quotes West as saying: "To the best of my power I take care of the general symptoms, and leave the displacement to take care of itself." Grailly Hewitt and his followers look at the displacement as the source of trouble, and as the object toward which treatment should be directed. Schultze's theory is that in the large majority of anterior displacements the complications are to be mainly attended to, while in posterior displacements the primary indication is to treat the displacement. Before treating displacements, it is first necessary to know, as the author pertinently remarks, what the normal position is, and this is by no means a fixed fact. Thomas says that in this position the (long) axis of the uterine body coincides with that of the superior strait. Barnes thinks that an inclination somewhat more acute than this need not be considered pathological. The American and English schools of gynæcology, in general, admit these types, and concede a normal mobility to the uterus of one inch and a half. Schultze claims that the normal position, when the bladder is empty, is one of antelexion, the anterior wall of the uterus being nearly parallel to the anterior vaginal wall. When the bladder fills the fundus is raised, but sinks again when it is emptied, acted upon both by gravity and by intra-abdominal pressure. Schultze considers that the fundus thus moves through an angle of 48°, and that pathological antelexion is most frequently caused by an inflammatory shortening of Douglas's folds, thus drawing the cervix toward the second bone of the sacrum. Fritsch adopts Schultze's views, claiming that the cervix normally makes an angle of 90° with the body when the bladder is empty. He says further that when any one of the ligamentous attachments of the uterus is shortened, the position of the uterus becomes fixed, and therefore pathological. The author agrees with Schultze and Fritsch, and, consequently, thinks that few cases of so-called antelexion require mechanical treatment, and that dysmenorrhœa and sterility in such cases are generally due to the com-

plications present. If mechanical treatment be required, it should be rather in the form of dilatation or a stem pessary than in the form of a vaginal pessary such as that of Thomas or Grailly Hewitt. As to retroflexion and retroversion, he thinks there can be no question as to the fact that they are pathological conditions. As a means of diagnosis, he thinks the bimanual method far superior to the sound. The lever action of the Hodge pessary he discards as a by-gone notion. Three objections to this instrument are evident to his mind: 1. The fundus presses so hard on its posterior arm as to drive the instrument out of the vagina. 2. The fundus slips off to one side of the round posterior arm, and so pushes this portion into the opposite side of the pelvis, thus rotating the instrument on its long axis. 3. If neither of the before-mentioned conditions obtains, the instrument causes so much pain by pressing against the tender fundus that it becomes unbearable. Various modifications of the instrument have therefore appeared, among which are those devised by Grailly Hewitt, Thomas, Gervis, Greenhalgh, and others. If Fritsch's view as to the normal position of the uterus is correct, none of these instruments are effective in remedying the pathological condition: first, because the uterus has never been really replaced; and, second, because the pessary is supposed to keep the uterus in place by direct pressure upon the fundus. Schultze's method for curing the displacement consists in replacing the uterus in a position of *exaggerated* anteversion [the italics are ours], and fixing the cervix posteriorly by means of a pessary. He insists upon this replacement by the bimanual method rather than by means of the sound, while Fritsch contends that the exact method is immaterial. [See the October number of this journal for a description of Schultze's method, as well as for that of a modification of the same.] The pessary which Schultze recommends is in the form of a figure eight, into one of the openings of which the cervix is inserted. [This is open to the very serious objection—which applies to all instruments of its kind—that it will produce congestion of the cervix, which often leads to serious trouble.] The author does not think the time has yet come to discard the Hodge pessary, for it will often be quite as effective as Schultze's in fixing the cervix posterior-

ly. The dorsal position should be used in the bimanual examination, if results are to be compared with those of other observers, more especially with those of Schultze and his following.

19. Dr. Düvelius gives a description of a case of *extirpation of the uterus per vaginam on account of prolapse*. The patient was operated upon by Dr. A. Martin in Berlin. She was forty-six years of age, and had first menstruated at the age of seventeen. At twenty-two years of age she gave birth to a large child, the labor being normal. Thirteen days after delivery prolapsus began to be noticeable to her, and after a time it became excessive. The cervix was amputated afterward, and anterior kolporrhaphy was performed at one sitting, and posterior kolporrhaphy and perinaorrhaphy at another. The operations were complete failures; the parts projected to an exaggerated degree, and had undergone extensive erosion and ulceration. In this condition she presented herself at Dr. Martin's polyclinic. Another anterior and another posterior kolporrhaphy were determined upon; but, when the patient was anæsthetized, the entirely retroflexed uterus was found to be so completely surrounded by the remains of perimetric inflammation that total extirpation alone seemed practicable. After disinfection of the field of operation, incision was made around the remnant of the *portio vaginalis*, which was followed by free hæmorrhage. The uterus was then drawn well downward, and an elastic ligature was placed around it. Douglas's pouch was next opened, and the uterus was detached at that aspect with scissors, knife, and fingers. In a similar manner the separation was made anteriorly. The uterus being now dragged forcibly downward, three ligatures were passed upon either side to secure the vessels, after which it was cut away. The stumps of the ligaments were brought down through the wound, and a series of both deep and superficial sutures was passed, securing the cut edges of the peritonæum and of the vagina. The operation was followed by peritonitis, but the patient eventually recovered. Anterior and posterior kolporrhaphy were subsequently performed, and the patient was believed to be entirely cured.

25. Dr. Routh, in a paper on *the etiology and treatment of a certain form of endometritis, accompanied with very*

tenacious leucorrhœa, gives the characteristics of this disease as follows: Pain or uneasiness, with more or less discharge which leaves a yellow stain. Often there is a feeling of weight and of bearing-down in the region of the uterus. During menstruation the pains are of a gripping nature, beginning in the back, extending in the direction of the round ligaments, and passing down one or both thighs. The vaginal temperature sometimes reaches 103°. The author believes that the discharge is due to a gonorrhœa communicated during the first few days of married life. Some cases of this nature, in the author's experience, have terminated in a rapidly fatal peritonitis. He partially agrees with Noeggerath in his belief that catarrh of the Fallopian tubes plays a part in the production of perimetritis and of peritonitis. In the virgin the endometritis may have been caused by an intense elytritis. Sterility is the constant result, and the cases are very difficult to cure. This is largely due to the fact that the applications which may have been made have not reached the inflamed tubes, and improvement is only temporary. He divides the disease into three varieties: 1, Where it is confined to the cervix; 2, where it extends to the superior cavity; 3, where it reaches the Fallopian tubes and the peritonæum. In the first variety the muco-pus is abundant at the mouth of the cervix, and is removed with difficulty. The pain is sometimes very severe. If the sound is passed, the pain seems to begin at the internal os. Version or flexion is usually an accompaniment, more frequently anteversion. The cause being as previously stated, the mechanism of the production of the disease is, 1, direct suction upward of the diseased fluid by the uterus; 2, the natural pressure downward and partial opening of the os during copulation. In the second variety, the first or cervical variety is supposed to have pre-existed. The cervix is filled with the tenacious fluid, and gradually the resistance at the internal os is overcome, and the fluid forces its way into the cavity of the uterus. The pain now becomes more intense, and clots or plugs are sometimes forcibly expelled. This may progress to the third variety, when the tubes are invaded, and in the worst cases a few drops of the fluid are forced into the uterine cavity with disastrous results.

The differentiation of these varieties is assisted by the localization of the pain. In the first it is dull and heavy, and does not extend higher than the groins. The vagina and cervix are sore to the touch, and as the disease becomes chronic all the symptoms are more intense. In the second variety the pain extends somewhat higher, is severe in the groins, and is apt to pass down the thighs. In the third variety the symptoms are those of perimetritis or of peritonitis. In the second variety, pain in the breasts is also present. The principles of treatment are local antiphlogistic measures, free exit to the irritating fluids, and proper local applications. Under the first heading are to be considered free blood-letting locally, blisters or iodine to the abdomen, saline purgatives, anodynes, and alterative doses of mercury. Next, the external os must be opened, if necessary, in order that the irritating fluid may be freely evacuated. For an internal application the author considers the best to be a mixture of iodoform and carbolic acid. The treatment of the third variety should be antiphlogistic and anodyne.

28. M. Polaillon presented for discussion to the Société de Médecine, of Paris, a paper on *amputation of the neck of the uterus for cancer*. He refers to the attempt of Récamier to solve the question of removal of the cancerous uterus, also to the revival of Récamier's ideas, latterly, owing to the impetus which has been given to abdominal surgery by the great success of ovariectomy. The results of extirpation of the uterus for cancer are too well known to require restatement. The great trouble in treating cancer of the uterus is to distinguish the limits between sound and unsound tissue, particularly in the early stages, when only an operation can offer much hope of a permanent cure. For this reason complete ablation of the uterus, or even ablation of the body of the organ, should be abandoned in this disease. When the disease begins in the cervix uteri the diagnosis is relatively easy, three principal varieties appearing: 1, the tuberculous; 2, the ulcerative; 3, the vegetative. The first and the last forms are readily recognized; the second is often confounded with benign ulcerations. Amputation of the cervix is curative, just as timely operation upon a similar affection of the tongue or lip is curative.

The author considers the galvanic loop as altogether the best instrument for performing the operation. The two dangers connected with its use are, the opening of the posterior vaginal cul-de-sac, and secondary hæmorrhage. Cases are described in which both these accidents occurred, notwithstanding which the patients recovered. The author says the operation is without gravity—which is hard to reconcile with the description of his cases, and with the consciousness that these accidents are always possible. If any diseased tissue remains after the use of the loop, it should be destroyed by the application of chloride of zinc. The author states, as his conviction, that an early operation may be followed by a radical cure. — M. Boinet is opposed to operations for cancer. He stated that he was not certain that life was prolonged by them, and that the operation was useless, as the disease never failed to recur. — M. Forget, who based his statement upon his experience as *chef de clinique* to Lisfranc, considered the operation a bad one if it were done with the expectation of producing a radical cure. If a permanent cure was obtained, he concluded that the disease was not cancerous.

29. In Dr. Up de Graff's case of *removal of a large intra-uterine fibroid by means of a new instrument* the patient was a sterile married woman, forty-two years of age, with regular but profuse menstruation. The severe loss of blood had weakened her very much, and had made rest in bed imperative. The tumor was found to be sessile, with a broad attachment, and was situated at the fundus, and along the upper portion of the posterior wall. Its diameter was four and a half inches. It was accompanied by constant and severe pain, and the patient was very anxious to have it removed. An attempt was made to remove the growth with a chain écraseur. This was unsuccessful, and the author then devised the instrument described in this paper. It is made somewhat on the principle of the obstetric forceps, but with a longer curve, and with blades having a toothed and grooved articulation at their extremities. The length of the blades is twelve inches; the length from the pivot to the extremity is five inches; the diameter of the greatest curvature is two and a half inches; the width of the blades one inch. A catch with a

ratchet action at the end of the handles permits of any degree of tightening. Ten days after the unsuccessful attempt referred to, this instrument was tried. It was adjusted as the forceps is adjusted over the foetal head. Torsion was then practiced until all resistance was overcome, and the tumor was extracted without difficulty. No hæmorrhage or other accident occurred, and the patient recovered speedily.

31. Dr. Bantock's article on *hysterectomy* will be read with interest. He defines the term as meaning "the removal, by abdominal section, of a fibroid or fibro-cystic tumor of the uterus, whether involving a part or the whole of the body of the uterus or not." Clay, of Manchester, was the first to do the operation, in August, 1843, the result being a fatal one. The first three successful cases were those of Burnham, Kimball, and Boyd—all American operators. Péan says the history of the operation comprises three distinct periods: "In the first, which extends to 1843, surgeons meeting with fibroid or fibro-cystic tumors of the uterus, instead of ovarian cysts, recoiled before the consequences of amputation of the uterus, and did not complete the operation." In the second period, which extends to 1863, "surgeons, emboldened by a more extended practice in ovariectomy, and encouraged by the success obtained in cases complicated by adhesions, which at first it seemed impossible to overcome, took a step in advance, and no longer feared to take away the body of the uterus whenever an error of diagnosis placed them in the presence of a tumor in intimate connection with this organ." The third period was initiated by Kœberlé in April, 1863, who, "finding himself in the presence of a doubtful tumor, made arrangements for any eventuality; he practiced gastrotomy, determined not to recoil even if, in order to remove the whole of the tumor, he should be obliged to have recourse to supra-vaginal amputation of the uterus. His courage was rewarded with success." Kimball's case was in 1853, antedating Kœberlé's by ten years. Between September, 1869, and February, 1872, Péan performed hysterectomy nine times, with seven recoveries. In 1875 Pozzi collected one hundred and nineteen cases, in which the mortality had been 64·7 per cent. In 1879 Letouzey published eighty-four additional cases, with

a mortality of 42.8 per cent. Keith has performed the operation twelve times, with only one death. Savage six times, with only one death. The marked symptoms in cases of fibroid tumors are hæmorrhage and pain, the latter calling for relief quite as much as the former. Adhesions are by no means exceptional. They were present in nine of the author's twenty-one cases, and are a formidable complication. In regard to cases which offer no encouragement for removal he says: "A tumor which grows out laterally from the uterus, and carries with it the broad ligament, offers insuperable difficulties in the control of hæmorrhage; or when the disease encroaches on, or actually involves, the vaginal portion of the cervix. Hence there must of necessity be a certain amount of selection, not all in favor of the operator." As to the operation, the incision must be in proportion to the size and nature of the tumor. In the author's experience a long incision does not necessarily imply greater gravity in the case. An incision twelve inches long heals as well as one of six inches. The crucial point is in the treatment of the pedicle. If the pedicle is narrow, springing from the fundus or the free surface of the uterus, it is immaterial whether the extra- or the intra-peritoneal method be used. Hæmorrhage is the great danger when the ligature is employed, as it is liable to cut through the yielding uterine tissue. He advises division of the pedicle, getting two flaps, which may be brought together by interrupted or by continuous suture. He does not approve of Spencer Wells's method of covering the stump with peritonæum, and sees in it no security against bleeding. He adds: "Who ever heard of any one shutting out the raw surface of an ovarian pedicle?" [A description of such a method of treatment will be found in the present number of this journal.] The extra-peritoneal method is, however, the safest way to treat the stump, and is recommended by such men as Hegar and Keith. Olshausen's plan of using an elastic ligature, returning the pedicle, is not likely to become general—why, he does not say. He prefers Kæberlé's *serre-nœud* in securing the pedicle, since it is very easy of application, and by its use the constricting force is entirely under command. The ovaries should be included in its grasp, if the ligaments are long enough

to permit of it. Searing the surface of the stump with the actual cautery, as well as the use of perchloride of iron, is unnecessary, perhaps injurious. For a dressing, he recommends a mixture of equal parts of glycerin and rectified spirits, either with or without four or five per cent. of eucalyptol. This is to be used as often as the discharges make it necessary. The *serre-nœud* may be removed in from seven to fourteen days. A funnel-shaped cavity is likely to be left in the abdomen, which gradually disappears after traction has been removed and the granulating surface heals.

31. Mr. Tait writes to the "British Medical Journal" on the *diagnosis and treatment of chronic inflammation of the ovary*. He remarks that the diagnosis of pelvic diseases received its first real life from Simpson. His was the mechanical school of gynecology, which has fewer followers as less severe methods of treatment are introduced. Bennett and Tilt directed attention to the ovaries as the possible source of trouble for which the uterus was being treated in many cases. Keith gave the greatest impetus to gynecology in teaching that the traditional fear of the peritonæum was a bugbear. The mortality of Keith, and also of the author, in ovariectomy, is now only three per cent., and this without the use of the antiseptic system of Lister, which he considers *more dangerous than useful*. With the comparatively few fatal results in abdominal section, we are now justified in making it not only to save life, after repeated mischievous tappings, which was the old rule, but also to relieve suffering. Under this new practice the pathology of pelvic disease is being better understood, and so is even the physiology of the female sexual organs. The author's experience [and it must be admitted that it is very extensive] leads him to believe that the ovaries have nothing to do with menstruation; that the phenomena connected with the latter function depend upon the Fallopian tubes, and not upon the ovaries. The accumulation of experience in abdominal surgery is also teaching us the conditions involved in chronic inflammation of the ovaries. The acute form of the disease is often fatal. It may originate in a chill, in an hæmatocoele, in an attack of gonorrhœa, in some exanthematic fever, or in miscarriage or childbed. From the last two of these, which are

more frequent than the others, two specific varieties of the disease arise, which he calls interstitial oöphoritis and peri-oöphoritis. If a woman has this chronic inflammation, sterility and dyspareunia will attest it, and it is a matter of clinical observation that the disease often occurs with those who have had one child, the acute inflammation beginning with the puerperal period. With such patients pain is rarely absent, and it is intensified during the puerperal period, "for the reason that the tubes are always involved." The left side is sure to be affected when the trouble is confined to one side. By digital examination a fixed and tender mass, constituted by the diseased ovary or an ovary and a tube, may be made out in the vaginal cul-de-sac, and the nauseating pain caused by pressure upon it is quite characteristic. The requirement in the way of treatment is primarily rest, but, of course, this is impossible during the menstrual epoch, when the organs are trying to fulfill their physiological function; to this may be added counter-irritation and setons, and, in the way of drugs, bromide of potassium and ergot. [We have found local applications of fluid extract of eucalyptus very soothing in the interval between the periods.] The alternative in these cases is the removal of the diseased ovary and tube. The author considers this operation perfectly justifiable, and the mortality in his series of thirty-five cases has been only 2.85 per cent. The arguments against the operation are that it unsexes the patient, that it destroys sexual desire, and that it may be useless—all of which are not valid, in view of obvious facts. It is most successful with those operators who have had large experience in abdominal surgery.

36. Dr. von Antal prefixes to his article the rather complex caption—*Laparotomy. The ligation of the vessels of the ovaries with subsequent atrophy, for the purpose of staying their physiological function. Contributions upon the intra-peritoneal treatment of the stump remaining after the extirpation of the uterus.* The author began in 1876 to experiment upon animals, with the view of bringing about atrophy of the ovaries, and published his results in 1877 ("Allgemeine Centralzeitung," No. xii.) These were, in effect, that after the mass ligature had been passed about the vessels, the ovary shriveled and underwent fatty degeneration, without suppura-

tion. Encouraged by these facts, he performed the same operation upon nine of his patients, at various times. The first two were operated upon in the year 1879-'80. Both were cases in which the uterus likewise was extirpated. The first patient died from septic infection proceeding from the abdominal wound, the second from *acute anemia*; hence nothing could be deduced from them as to the value of the ligation around the ovarian vessels of supply. Of the remaining seven cases, he succeeded in attaining the desired end in three. In the first the ligation was made upon the right side, the ovary being as large as a hen's egg at the time of the operation. Four months later it had diminished to the size of an almond. During this time the patient had menstruated twice, each period lasting two days; but this is not an uncommon event, even after castration. In the other two cases the atrophy seemed to be complete two months after the operation. No menstruation has occurred since that time. As indications for the operation, he suggests myomata uteri, hypertrophy, versions and flexions of the uterus, when they cause marked and irremediable trouble with menstruation; inflammations of the ovaries, providing they are not too firmly imbedded in the mass of exudation, and the tubes have taken on no inflammatory process; displacement of the ovaries, and cystic stroma-degeneration, providing that the cysts are still small. In ordinary ovariectomy he advocates the ligating of the vessels of the pedicle individually, according to Langenbeck's and Miner's suggestions, and the covering of the raw surface of the pedicle with peritonæum, as an additional means of protection to the abdominal cavity, and as a means of preventing hæmorrhage, even more effectual than the use of the cautery. He would limit the isolated ligation of the vessels, however, to those cases in which the pedicle is thick. With a thin pedicle the mass ligature requires less time, and the danger of hæmorrhage is not great, especially when the cut edges of the peritonæum are treated in the way which has been described. The same method is applicable in cases in which the uterus has been removed above the portio vaginalis. Sims adopted this plan in 1872, and Spiegelberg in 1874. In an operation for the removal of a uterine fibroid in 1877, where a portion of the

fundus uteri was also removed, Kovács first tied all the vessels with catgut, and then closed the edges of the wound with a glover's stitch. Schröder first employs an elastic ligature; he cuts a funnel-shaped stump, ties each vessel, then brings the edges of the wound together with sutures, and *over this* draws the peritonæum and closes its edges. Spencer Wells uses the mass ligature, and also closes the divided peritonæum.

37. Dr. Landau writes in regard to the *technics of laparotomy*. He thinks an improvement can be made upon the customary method of grasping a cystic or solid tumor of the uterus or the ovaries. That is to say, instead of grasping a cystic tumor with a Nélaton or Péan forceps, or a solid one with a Muzeux's forceps, or instead of pressing the intestines away and carrying the hand behind them, to remove a tumor situated posterior to them, in the ab-

dominal or the pelvic cavity, he would recommend a plan which he has followed in a number of laparotomies; that is, to introduce two fingers of one hand into the vagina, which has previously been thoroughly disinfected, to place the external hand above the tumor, upon the abdominal wall, and then to exert pressure with the two opposing hands, in order to force the tumor into the abdominal wound. This method is comparable to Schultze's method of replacing a retroflected uterus; it is very useful in the presence of small tumors, and is entirely extra-peritoneal, with the advantages accruing from that fact. He states that he no longer punctures small cysts before removing them, even when they are not dermoid. [Of course this plan is entirely impracticable in the presence of firm adhesions, and such a condition exists with the majority of ovarian tumors.]

QUARTERLY REPORT ON SURGERY.

No. XII.

By CHARLES B. KELSEY, M. D.,

SURGEON TO ST. PAUL'S INFIRMARY FOR DISEASES OF THE RECTUM.

1. HUTCHISON, J. C.—An apparatus for the administration of ether. "Proc. of the Med. Soc. of the County of Kings," July, 1882.
2. CECCHERELLI, A.—Lo jodoformio nella terapeutica chirurgica. [Riv. sintet.] "Sperimentale," July, 1882.
3. WEBER et THOMAS.—L'étope purifiée et antiseptique, son emploi dans les pansements et dans les approvisionnements des ambulances. "Rev. de Chir.," July, 1882.
4. STERNBERG, G. M.—Induced septicæmia in the rabbit. "Am. Jour. of the Med. Sci.," July, 1882.
5. LEONARD, B. F.—The caustic-potash treatment of carbuncles. "Maryland Med. Jour.," Aug. 1, 1882.
6. NOTES, H. D.—A case of lodgment of a foreign body in the cavities of the nose, orbit, and cranium, where it remained five months; removal by operation; subsequent trephining for pus in the brain; death; autopsy. "Am. Jour. of the Med. Sci.," July, 1882.
7. V. LESSER, L.—Ueber die operative Behandlung verkäsender Lymphdrüsen-schwellungen. "Centralbl. f. Chir.," June 3, 1882.
8. HAYEM, G.—Sur le mécanisme de l'arrêt des hémorrhagies. "Union Méd.," July 18, 1882.
9. SYDNEY, H.—A method of applying ligatures to veins. "Lancet," Aug. 26, 1882.
10. SEGOND, P.—Étude sur les modifications du calibre des vaisseaux dans les membres amputés. "Rev. de Chir.," Aug., Sept., 1882.
11. ALEXANDER, W.—The treatment of epilepsy by ligature of the vertebral arteries. "Brain," July, 1882.
12. BOTTEY, F.—Note sur un cas de variété nouvelle de luxation de l'épaule en arrière. "Progr. Méd.," Aug. 5, 1882.
13. GUERMONPREZ, F.—Note sur la réduction de la luxation du pouce en arrière au moyen des manœuvres de douceur. "Union Méd.," Aug. 24, 1882.

14. RICHELOT, L. G.—Sur l'état fonctionnel du membre inférieur à la suite des fractures transversales de la rotule. *Ibid.*, Sept. 2, 1882.
15. KRASKE, P.—Ueber die Radikaloperation bei angeborenen Leistenbrüchen der Männer. "Centralbl. f. Chir.," July 1, 1882.
16. PARKER, R.—On the method of operating in strangulated umbilical hernia. "Lancet," July 8, 1882.
17. ENGLISH, J.—Ueber den Mastdarmbruch. "Med. Jahrb.," 1882, ii.
18. QUÉNT, E.—Des ruptures spontanées du rectum. "Rev. de Chir.," Mar., 1882.
19. BRICHETTI, L.—La nefrectomia extra-peritoneale. "Gazz. degli Ospit.," Aug. 20, 23, Sept. 3, 1882.
20. VINCENT.—Note sur le traitement des cystites spasmodiques rebelles chez l'homme par la dilatation du sphincter vésical pratiquée à la faveur d'une boutonnière périnéale. "Lyon Méd.," July 2, 1882.
21. ZANCAROL.—Du rôle du distoma hematobium dans la formation des calculs vésicaux (quatorze cas de litholapaxie). "Rev. de Chir.," Aug., 1882.
22. DAVIDSON, J. McK.—A new mode of detecting stone in the bladder; the auditory method. "Lancet," July 1, 1882.

1. Dr. Hutchison calls attention to an *ether inhaler*, which we judge to be an invention of his own, but which seems, from the description, to be very similar to that invented by Dr. Noyes, of this city, and which has been in use for several years at the New York Eye and Ear Infirmary, we believe with satisfaction. The apparatus is very simple, and consists of three essential parts: 1. A rubber mouth-piece, such as is used by dentists in administering gas, and which completely covers the mouth and nose, and can be made to exclude the air entirely. 2. A receptacle for the ether, which consists of a tin box, cylindrical in shape, three and a quarter inches long by two and a quarter inches in diameter, in which is placed a coarse sponge. This box has three openings—one at each end and one in the middle. To the opening at one end the rubber mouth-piece is attached; to the opening at the other end a muslin bag is attached; and the opening in the middle is for the purpose of allowing the ether to be poured in upon the sponge, and should be fitted with a cork. The third element of the apparatus is the muslin bag, pear-shaped, eleven inches long and eight or nine wide at the widest part, having a capacity of forty or fifty inches. The neck of this bag fits closely over the end of the tube, with which it is connected at pleasure by strings. The bag should be made of close material, and when it is wet it will be almost impervious to air or ether vapor. The sponge in the tin cylinder will hold about two ounces of ether, and, when the apparatus is to be used, it should first be wet with water, then squeezed, and placed in the

tube. The muslin bag should also be first wet and wrung out, and, when the mouth-piece is attached, the apparatus is ready for use. To avoid strangling the patient, the orifice in the middle of the tin cylinder through which the ether is poured may be left open during the first respirations.

[It will be seen at once that at the first expiration the air is driven through the sponge and out into the bag. At the next inspiration the same air, mixed with ether vapor, is drawn into the lungs, and this is repeated indefinitely, the rubber mouth-piece easily preventing all access of atmospheric air. The apparent advantages of this inhaler are numerous. It economizes ether so that the first dose of a couple of ounces will sometimes last for a considerable operation. Again, it is simple in construction, easily cleaned, always ready, easily portable, and not expensive. These things recommend it at once. But, though Dr. Hutchison is satisfied to recommend it, and Dr. Noyes, we believe, has not discarded his, the writer has been disappointed in it, and has finally discarded it, very unwillingly, for fear of an accident. Though the vapor of ether is supposed to sustain life without the addition of atmospheric air (which is the principle upon which this inhaler is based), a little more ether and a little more time in administering it add a good deal to the peace of mind of the operator.]

5. Dr. Leonard claims some originality in the method of employing *caustic potash for carbuncles*, and some exceedingly good results from this plan of treatment. His method consists in a continuous and immediate action of the

potash until the desired result is obtained, and in the use of chemically pure acetic acid on the skin, and of dilute acetic acid on a mucous membrane, to limit the action of the caustic. The author covers the carbuncle with a piece of resin cerate with a hole cut into it, and through this aperture he bores about half way through the brawny mass with a piece of caustic potash securely held between the blades of a dressing forceps. When sufficient depth is attained, the action of the caustic is limited by the application of the acetic acid. The patient is not left until the caustic action is completely stopped. The advantages claimed are the bloodlessness, the immediate relief of pain, the ability of the operator to limit the extent of the caustic action, the simple after-treatment, and the rapid recovery.

8. M. Hayem has studied the *mechanism of the arrest of hæmorrhage* very deeply, and has reached some important conclusions. He goes back to the discovery of Andral, who, by examining blood with the microscope, either pure or mixed, as it came from the vein, with one seventh of its weight of sulphate of sodium, found that all the fibrin was held in suspension under the form of little white corpuscles $\frac{5}{100}$ mm. in diameter. To these corpuscles filaments were added at the moment of solidification. Many other observers also have seen in the blood in process of coagulation these little pale granules, either single or agminated, and the filaments of fibrin. In 1873 M. Ranvier also pronounced on the nature of these little bodies. "It is probable, without being proved," he said "that these angular granulations which exist in the blood are little masses of fibrin, and that they become the centers of coagulation, as a crystal of sulphate of sodium placed in a solution of the same salt becomes the center of crystallization."

Such was the state of our knowledge on this subject when, in 1877, M. Hayem announced that there existed in the blood peculiar little elements having the singular property of undergoing instant alteration when they came from the body, more especially when they were brought into contact with a foreign substance. As these elements are destined to become red blood corpuscles, he proposed for them the name of hæmatoblasts, believing them to be the same as those already described by the other ob-

servers, only more or less altered in appearance. He also believed that the process of coagulation was intimately connected with the modifications of these elements. In works which he published from 1877 to 1881 he insisted upon the viscosity which the hæmatoblasts acquired when they were no longer in their normal condition, adhering then to each other, and to any foreign body with which they came in contact. It is only after having undergone a manifest metamorphosis, of which this state of viscosity is the first degree, that they become the principal points of departure and of attachment of the filaments of fibrin. He also discovered that all the conditions known as having an effect in retarding or preventing coagulation also prevented these alterations of the hæmatoblasts, and *vice versa*.

Pursuing this study, he was led to examine the manner in which the flow of blood resulting from the wound of a vessel is arrested. He believed that the hæmatoblasts took an active part in the process, and set himself to discover the exact nature of their influence. In the case of wound of a blood-vessel, the hæmorrhage, at first rapid, gradually decreases, and then ceases. To explain this favorable result, the contraction of the wall of the vessel has been invoked. This is real, and even energetic, for arteries of medium and small caliber, but almost nil for the veins. But this contraction can not of itself close the wound. It was therefore natural to call in the intervention of coagulation. But it is evident that, in the arrest of hæmorrhage apparently by the formation of a clot, there is something peculiar, the mechanism of which needs explanation. In fact, during a hæmorrhage, the blood which passes between the lips of the wound in the vessel is always new, and when collected in a vessel it is transformed into a gelatinous mass only after several minutes. Why, then, does it form a solid plug between the lips of a wound which soon becomes so resistant as to oppose an obstacle to all issue of blood? Upon this point M. Hayem has endeavored to throw some new light. After having exposed the jugular vein of a dog, a small wound is made in the vessel, and the hæmorrhage is allowed to cease spontaneously; immediately after a ligature is applied to the peripheral extremity of the vessel. It is easy then to draw from the little wound a clot shaped like a nail, the

point of which penetrates into the lumen of the vessel, the head resting upon the outer wall of the vein. By immediately placing this coagulum in a liquid which fixes the elements of the blood, its different parts may be examined with the microscope. The point and central portion are grayish, viscous, and composed of partly granular and partly amorphous matter. The granulations are composed of enormous masses of hæmatoblasts already altered, but still very distinct one from the other, while the amorphous matter results from the confluence into one common and coherent mass of the hæmatoblasts which have undergone the greatest change. The head of the nail, which is red on the exterior, contains in its center a prolongation of the viscous hæmatoblastic matter, and at the periphery the fibrillary meshes hold a great number of red corpuscles. In all the central, and, properly speaking, obstructive part, there are very few white blood corpuscles. It is, therefore, evident that the fibrin is added to a central nucleus composed almost entirely of hæmatoblasts. The formation of this nucleus may be studied in the mesentery of a frog under the microscope. After having brought into the field of the microscope a vein of medium caliber, with transparent walls, an incomplete section of the vessel is made with the point of a fine scalpel. An abundant hæmorrhage is produced, and, for a few seconds, nothing is observable but a mass of blood. Soon the blood flows more slowly, and is confined by a crown of elements strongly attached to each other and adhering to the opening in the vessel. A few moments later the orifice of the wound is surmounted by a sort of whitish excrescence (*chamignon*), through the elements of which the red blood corpuscles insinuate themselves with difficulty. Far from being formed, as several observers have said, of the white corpuscles, the wall consists of hæmatoblasts which have been retained during the flow of the blood. At the moment when the hæmorrhage ceases, these have already become altered, and, continuing the observation, they may be seen to undergo all the changes described by the author in previous communications.

The obstructing hæmatoblastic button holds only an insignificant number of white blood corpuscles. These are spherical, smooth, not adhesive, for by

continuing the observation for a few moments they may be seen to separate themselves from the mass of hæmatoblasts, thanks to their amœboid contractility. They do not appear to participate at all in the arrest of the flow, and they still possess their physiological properties and normal anatomical character, while the hæmatoblasts of the obstructing plug are already greatly modified. In this process the edges of the wound seem to play the part of foreign bodies. It is easy, moreover, to determine how the hæmatoblasts act with regard to a foreign body directly introduced into the circulation. By means of a slightly curved needle, carrying a thread of silver or platinum, the external jugular vein of an animal (dog) is pierced in such a way that about one centimetre of the cord remains in the lumen of the vessel. When the operation is well done, hardly a drop of blood will escape from either the point of entrance or exit of the needle. After two or three minutes, a length of time sufficient in the dog, in which animal the hæmatoblasts are very vulnerable, the segment of the vein traversed by the cord is separated by the aid of two ligatures, the first placed on the peripheral end, the second on the central. The trunk of the vein containing the thread is immediately detached and opened after being plunged into a liquid which fixes the elements of the blood. Already the thread is surrounded by a grayish mass, a little reddish here and there, composed of innumerable hæmatoblasts, the more readily recognizable the shorter the time that the thread has been in contact with the circulating fluid. When the thread is left for a longer time in the vessel, and the muff which surrounds it has become more voluminous, the constitution of the muff is entirely analogous to that of the hæmostatic nail already described.

The hæmatoblasts thus play an active and important rôle in the mechanism of the arrest of hæmorrhage. These elements are alterable to the extent that, coming in contact with the edges of a wound, they become adhesive, as when in contact with a foreign body. In accumulating little by little around the open orifice of a vessel, they form there an obstacle at first insufficient; then, the first hæmatoblasts being arrested, they retain in their turn those which issue with the blood coming constantly in contact with them; the orifice of

the wound retracts little by little, until finally it is completely closed by a solid and fixed plug. The other elements of the blood and the formation of fibrin only participate in this process in a secondary and accessory manner. The blood, then, contains within itself a powerful hæmostatic agent, and, were it possible to remove from normal blood all of the hæmatoblasts, the wound of a vessel would cause a hæmorrhage which would have no tendency to cease spontaneously.

These experimental facts have a practical application of importance. All foreign bodies alter and retain the hæmatoblasts, and in this way is easily explained the formation of intra-vascular clots in the living person by the contact of diseased points in the cardiovascular walls. In the same way may be understood the hæmostatic action of foreign substances brought into contact with the surface of a wound, notably those of a pulverulent or spongy nature. According to the experiments of M. Hayem, the modifications of the hæmatoblasts are favored by an elevation of temperature, and are extremely active at a temperature a little above that of the body. He asks if it may not be in this way that the good effect is obtained by hot injections in the treatment of hæmorrhages. For to the action of water, which is in itself effective upon the hæmatoblasts, is added that of heat. Again, for blood to cease flowing it must contain hæmatoblasts, and these must be impressionable to the contact of foreign bodies. In animals like the horse, whose blood is only slightly coagulable, the hæmatoblasts are modified with comparative slowness. Again, these elements may undergo alterations in number and quality in cases of disease, and it may be concluded that in certain cases the constitution of the blood may be a predisposing cause of hæmorrhage following the least vascular injury. That singular malady known as hæmophilia is perhaps precisely the consequence of a particular state of the hæmatoblasts.

In conclusion, the author gives a practical exemplification of the importance of this view. He was called in consultation with Gosselin, Perier, and Dieulafoy, in a case of extreme epistaxis, in which the patient was at the point of death from anæmia. For thirty years the patient had been subject to similar attacks. On examining the

blood, the author was struck by the fact of the relative rarity of the hæmatoblasts, and of their feeble vulnerability, the changes which they undergo out of the organism occurring much more slowly than natural. He believed that the persistence of the hæmorrhage, which had lasted for three weeks, and was renewed whenever the tampon was removed for a few hours, was due to these changes; and thought that, by transfusing into this patient a certain quantity of normal human blood containing active hæmatoblasts, the condition might be modified to advantage. One hundred and twenty grammes of venous blood were injected, and, in spite of the feeble dose, the epistaxis was immediately and definitively arrested. After the operation the tampons were removed, all hæmostatic agents were laid aside, and the patient lost not a drop of blood. It seemed evident to himself and his colleagues that the transfusion had acted as a hæmostatic of remarkable power, and that the cure of the patient should be attributed to it.

9. Mr. Sydney's method of applying ligatures to veins consists in the use of a catgut ligature subcutaneously. The form of phlebitis required is the healthy aseptic variety, with its limiting zone of plastic formation passing across the lumen of the vein and its solidified contents, and preventing purulent matter, or the results of disintegration, from entering the circulation. The variety to be dreaded is the septic, where phlogogenous matter, zymotic or chemical, penetrates the tissues before the defenses of the limiting zone can be formed, and diffuse suppuration is the result. If septic inflammation were due only to germs introduced from without, it might be hoped that strict antiseptic precautions would prevent it; but there is every reason to suppose that it can arise from the formation and absorption of a material not of a zymotic but of a chemical nature, due to decomposition, or retrograde metamorphosis of tissue, or wound products. In the ordinary mode of occluding veins by acupressure or subcutaneous ligature, there is, in addition to the vein, a large amount of skin and other tissue seized, compressed, and more or less devitalized; and, consequently, conditions are produced favorable to unhealthy tissue metamorphosis and absorption. From whatever point it is viewed, the principle of inclosing within a ligature or by acupressure tis-

sues other than the vessel to be occluded, the author believes to be wrong; and whatever proceeding tends to limit the action of the ligature to the vessel only, he believes excludes an element of danger. Whether the dangers of operations on veins are exaggerated or not, results are apt to follow which will be grave in proportion to the ease with which, ceasing to be local, they become general, and therefore an essential precaution in operations is antiseptic procedure. This the author does not follow to its extremes. He uses either the spray or the irrigator, and has had equally good results from each. He has also had perfect freedom from suppuration and sepsis without using either, but from an application to the skin of a thick ointment composed of wax, olive oil, eucalyptus oil, and carbolic acid. This, when smeared over the parts, forms a coating sufficiently thick, at the temperature of the skin, to prevent the contact of air with the punctures. The ligature should be very fine—No. 1 size only. This is because it requires less force to completely occlude a vessel with a thin than with a thick ligature; and because a thick ligature embraces a greater amount of tissue, and therefore causes a greater amount of bruising and destruction. The ligature should not be in that rigid condition in which it usually is from being kept in carbolic oil, as, after soaking in the fluids of the wound, it becomes softened and elastic, and in that condition stretches after tying, which, be it ever so little, is sometimes sufficient to prevent perfect occlusion. To soften the ligatures, they may be soaked in a five-per-cent. solution of carbolic acid before being used. The author has also found that the addition of a small quantity of eucalyptus to the carbolic acid in which they are usually kept makes them soft and elastic. The vein alone, with as little surrounding tissue as possible, should be included in the ligature. Not only is there less tissue bruised or devitalized, but less force is required to produce complete occlusion, just as an artery is more easily controlled by pressure on its bared trunk than through superimposed structures. With this object the author employs two needles—a long, sharp-pointed one, and a blunt, grooved one, to act as a director. The sharp needle is first thrust under the vein, and its point brought out through the skin on the opposite side. It is then with-

drawn a sufficient distance in its track to allow its point to be passed over the vein between it and the skin. To serve as a guide, the grooved director is now inserted in the puncture of exit from which the needle has just been withdrawn, and the needle, now pushed on, meets the groove of the director and comes out at its former aperture. After these tracks were made the author formerly used blunt needles and a director to pass the ligature around the vein and tie it. Recently he has used a triangular-pointed needle five inches in length, with an eye in the middle and a bulbed extremity. It is thinner in the shaft than at the point, so that the ligature threaded through its center passes without hindrance along with it into the puncture. The needle, with about eight inches of ligature, is thrust under the skin beneath the vein and brought out on the other side, as just explained. It is pushed on till the ligature appears, one end of which is then withdrawn sufficiently to allow it to be passed over the vein, guided out by the director as described, and pushed on till the other end of the ligature can be pulled through. The ligature, now forming a loop around the vein, is drawn out of the needle, tied in a single knot, and that end of it which was first passed through is drawn back by the needle to the other side of the vein, and the knot passing under the skin is then tightened. To tie again and complete the reef-knot, the eye of the needle bearing the ligature must again be pushed through, and the knot tied as in the first instance; the other ligature is brought back in the needle, which may now be entirely withdrawn, and the knot made fast. The ends are now cut off as near the knot as possible; this is done by pulling gently on the one half of the ligature and cutting it off close to the skin, so that it at once disappears beneath it when divided; the other end is similarly dealt with. The vein is now tied with a reef-knot, which with both of its ends is beneath the skin. It will be observed that until the completion of the operation the needle is never entirely withdrawn from the wound; and that it is by means of the eye carrying the ligature from one side to the other that the knot can be correctly and securely tied subcutaneously. To insure more complete and permanent adhesion, as well as to avert clotting in the vein, two ligatures must be applied,

at intervals not exceeding an inch. The lower ligature is to be first applied, and before tying the knot of the upper one all the blood in that part of the vein between the two points of occlusion must be pressed out, so that the sides of the vessel are brought into the closest contact. By this means a much firmer adhesion is obtained than by clotting and subsequent contraction and occlusion.

The formation of thrombus is to be prevented, in the first place, by keeping the ligature out of the vein, and in the second by firm pressure on the limb, previous to any ligaturing, by means of a rubber bandage applied from the foot up to that part immediately below the point to be ligatured. By doing this the veins are emptied of their contents, so that no thrombus with secondary phlebitis can result. For the same reason the bandage is also to be continued over and above the ligatured portions as the operation proceeds. When a hæmorrhage shows that the vein has been punctured, the operation must be abandoned at that point and another chosen. The application to each of the punctures of a small piece of lint moistened with carbolized oil and covered with absorbent carbolized wool completes the procedure. Unless there is much pain, the dressing need not be removed for three or four days. During this time the patient is to be kept in bed. On the fifth or sixth day, according to the amount of tenderness, the leg may be put to the ground. The author has seldom seen suppuration except when thick ligatures have been used, or when a large portion of tissue has been included. It has never in any case amounted to more than two or three drops of pus, which, after making its way out of the punctures, was immediately followed by healing. In ordinary cases two, or at the most three, occlusions are sufficient to relieve varicosity. In eighteen cases the author using these precautions has had no bad results, or, indeed, any that caused anxiety. So far as he has been able to judge, the results are permanent upon the vessels ligatured. In long-standing cases, where there is much œdema, with great tortuosity of vessels, there are considerable difficulties to encounter. To obviate these, Mr. Duncan advises that a tight rubber band be placed high up around the limb; this, while it brings the veins out in strong relief, has the additional advantage of rapidly and surely

showing by hæmorrhage whenever they are wounded. He has also found that a rubber bandage, well applied and kept on for some time, reduces that solid, brawny œdema so frequently met with in varicose disease, in which the vessels run like gutters beneath the skin, and render deligation difficult.

11. Dr. Alexander gives a very interesting *résumé* of the results of his cases of *ligature of the vertebral arteries for epilepsy*. In the twenty-four cases reported, three patients have been quite well for nearly a year. Nine others have been so free from fits, and for such a length of time, that it may be said a cure has resulted, or is likely to result; and eight have improved in so many respects, or are improving so steadily, that the operation would be justifiable were no better results ever obtained. The doctor now thinks that ligature of the vertebral arteries ought to take its place as a recognized operation for the cure of epilepsy when other means, such as the removal of peripheral causes of irritation and the soothing of irritated nerve centers by drugs, have failed.

The method of operating is simple, no important structures are implicated, the danger to life is very small, and, should the operation be a failure, the patient is no worse off than before. A linear incision, commencing opposite the lower end and on the outer side of the external jugular vein, and about an inch above the clavicle, is carried upward for three inches along the external border of the sterno-cleido-mastoid. The layers of fascia are cut through to the same extent until the fatty tissue over the anterior scalenus is reached. With the fingers the sulcus between the anterior scalenus and the longus colli can be opened up, and the sixth cervical vertebra reached by tearing with a strong director. The artery will generally be found easily, provided no veins are injured. If the vessel is not found there, it will be found running up the inner side. The sterno-mastoid and the external and internal jugular veins should be well protected and retracted by good retractors during the operation, and the wound may be dressed antiseptically. To afford reasonable hopes of success, the epilepsy must not be allowed to become too chronic. It should be performed as soon as it becomes evident that drugs have no curative effect. In some of the very chronic cases improvement has resulted, and the author

is not yet prepared to say how far that improvement may progress, or how far it may retrogress. Before performing the operation, every external irritating cause should be, as far as possible, removed. Not much in this way can always be done, nor is it necessary, provided it be not one that by its nature or severity is the sole cause of the epilepsy. When the sensibility of the epileptic nerve center or centers is reduced, that cause will have no more effect in producing fits than it has in any other healthy non-epileptic individual. When the exciting causes of epilepsy are cerebral, and are accompanied or alternate with uncontrollable anger or maniacal excitement, the effects of operations are not so apparent or so permanent. In old-standing cases of chronic epilepsy the operation mitigates the disease, and, the author thinks, may ultimately cure the fits.

The after-treatment is of great importance. It is well to turn the patients out of the hospital as soon as the wounds have healed. When the fits show signs of recurrence after operation, ice-bags to the spine are valuable. The exercise of the patient's faculties and limbs promotes the more even distribution of blood through the body. The best results were obtained with those patients who could go home at once after the operation to the comforts and variety of home life. The indolent, objectless life of a hospital ward promotes sensory irritations and digestive disturbances, prolific causes of spinal and cerebral congestions, that probably upset in a very short time all benefit from operation. The author has always made it a rule to ligature both arteries simultaneously, so that the effect may be as great as possible, and that all that can be done may be done at once. The risk is no greater, but the effect is greater, and more apt to be permanent.

14. M. Richelot, in calling attention to the *functional state of the leg after fracture of the patella*, dwells particularly on the condition of the triceps extensor muscle. His remarks are based upon two cases which contrast markedly with each other. In one the union of the fragments is good, but the patient is unable to extend the limb. In the other the result obtained by the treatment of the fracture is not so good, the fragments are farther apart and more movable, and yet the functional

state of the limb is much better. In the former the thigh on the affected side measures five centimetres less than on the sound side, while in the latter the difference between the two is scarcely one centimetre. In the former also there is marked diminution in the contractile power of the triceps, while in the latter the muscle contracts easily and firmly. The atrophy of a triceps upon which the author insists is supposed to stand in a reflex pathological relation to the more or less grave arthritis which accompanies a fracture of the patella. The atrophy may be temporary, or may last some time. It sometimes passes away spontaneously with the use of the muscle; at others it persists, and this without our being able to establish any absolute relation between the gravity of the inflammatory action in the joint and the extent of the atrophy. This condition of the triceps explains better than any other reason the different degrees of functional disturbance which follow fracture of the patella. When the atrophy is slight, and disappears promptly, the patient has good use of the limb. When, on the other hand, it is more severe, but gradually passes away in the course of months, the functions of the limb gradually return, sometimes contrary to all expectation and in spite of a considerable separation of the fragments. If the atrophy is extreme and lasting, incapable of spontaneous recovery and beyond the reach of treatment, the powerlessness of the limb may also be absolute and lasting.

The author believes that, in directing all their efforts to the approximation of the fragments, surgeons have been following a wrong track. Any means which tends to a proper coaptation of the fragments is not to be neglected, but everything else should not be sacrificed to coaptation; and means for securing it which are in themselves dangerous may not be entirely justifiable.

16. Mr. Parker, in discussing the *method of operating in strangulated umbilical hernia*, refuses to entertain the notion of the special vulnerability of the sac of such a hernia as distinguished from that of the adjacent peritonæum; and holds that the onus of the proof rather rests upon those who have invented the idea, which he ventures to think is not based upon any intelligible principle of anatomy, physiology, or clinical experience. He goes on to

say that he can see nothing in umbilical hernia, whether strangulated or not, to which the known principles of surgery that apply to other herniæ do not equally apply; and still less does he see why such a hernia should be denied, under any circumstances, complete reduction or the supreme advantage of a radical cure.

The author's experience is based upon four cases, in only one of which strangulation was present, and that of a mild and recent character. In this case the very fact that the woman was not left till she became moribund, or rather was promptly rescued before signs of actual danger were evinced, is one of the proofs so often and so truly adduced that we must not mistake for consequences of the operation symptoms that never occur when kelotomy is properly and promptly performed. Perhaps one cause of the desperate state into which intestinal irreducibility may drift, in umbilical cases, is the comparative wideness of the neck, facilitating descent, but not strangulation, which is consequently rather prohibited, and, what is worse, is, from its more gradual onset, apt to be insufficiently noticed by the patient, who fails to connect with the tumor, not differing, perhaps, from its usual daily state, the uneasiness, eructation, and other early symptoms, so much more appreciable to some non-medical minds than others, and so instantly attractive to medical notice. It is truly bad enough for the patient if medical attention be delayed until the unequivocal strangulation has reached an advanced stage of constitutional and even local disturbance. Precisely the same, however, occurs in old inguinal herniæ, from many of which an umbilical differs only and simply in the single item of locality. Even at this juncture the successful advantage of operation is conspicuous enough, but it may go very hard with the patient if his surgeon has to think twice about cutting him, through a perfectly unfounded and superstitious dread of killing by the means alone capable of keeping him alive. The former death-rate of umbilical kelotomy, though absolutely high, has been in certain groups of statistics, especially in the hospitals of towns, almost if not quite equaled by that of inguinal and femoral. But great improvement has taken place for many reasons, and an indirect result of this improvement has been the

removal of unwonted reluctance and delay; in fact, men operate earlier, and for some purposes oftener, than they did before, while operations are freely undertaken that were formerly avoided altogether.

17. Dr. Englisch has given to the profession the most complete and thorough study of *rectal hernia* which, so far as our reading goes, has yet been published. It should be read in connection with the article of Quénu (abstracted in this report) on spontaneous rupture of the rectum: for most of the cases of rupture reported by the latter are cases of hernia of the abdominal contents into a prolapse of the rectum, studied by the former. The fact that loops of small intestine, and even the bladder, uterus, and ovaries, sometimes find their way into an extensive prolapse of the rectum, is well known. Such cases have been reported by various standard authors, and once in a while a sad accident with a fatal termination is reported from surgical interference with such a condition. In the article by Englisch the whole question of such rectal herniæ is covered. He explains the reason why so few cases are reported in surgical literature as being that most of them are included under the name of prolapse. After reporting fourteen cases from other observers, and giving one personal case, he enters into the study of predisposing and exciting causes; the predisposing are such as affect the healthy condition of the parts at the pelvic outlet; the exciting cause is the previous formation of a prolapse into which the hernia may descend. The sac, the contents, the characteristics of the hernia, the diagnostic symptoms, and the differential diagnosis, are all described in full, and the author then passes to the complications which may occur, such as inflammation of the sac, rupture, and strangulation. The article closes with remarks upon reposition and the treatment after rupture. We can not attempt to go over the ground the author has so completely covered, but must content ourselves with a mention of the value of the work done in this comparatively unstudied field.

18. Quénu has made a careful and interesting study of the rare accident described as *spontaneous rupture of the rectum*. The term spontaneous rupture is limited to those cases in which all the coats of the rectum are torn through

as a result of a simple effort, the intestine being to all appearance healthy. This definition eliminates those lacerations of the mucous membrane which result from various palpable causes, such as the passage of large masses of hard fæces and foreign bodies; or from direct traumatism, such as the passage of the fœtus *per anum*. The first observation of spontaneous rupture of the rectum seems to be that by Brodie, in 1827, published in the London "Med. and Phys. Journal." Breschet, in the dictionary in sixty volumes, only mentions lacerations and fissures of the sphincter and of the end of the rectum. In 1833 Mayo reported the case of a woman who tore through the recto-vaginal septum in an effort at defecation. Bushe, Pyl, Adelmann, Stein, and Needham have published new cases; but there is a marked absence of any reference to the condition in the standard works on diseases of the rectum. Liston, Quain, Syme, Curling, Smith, Allingham, and the dictionaries of Dechambre and Jacoud, limit themselves to mentioning the accident, and to referring to the cases of Brodie and Mayo.

Spontaneous rupture of the rectum is a very rare accident. Including that of Roché, there are only nine recorded cases, and these are all in adults, and six out of seven in females. In the five cases which are reported with completeness, the existence of old and extensive prolapsus is noted in four. The rupture is always produced at the moment of an effort; four times during defecation, once in vomiting (Brodie), once in an effort to lift a heavy weight (Stein). The case of Roché comes under the first class, though the effort occurred during attempts at replacing the prolapse. None of the observations make any reference to previous losses of blood, hæmorrhoids, or inflammation of the rectum; the patients suffered from prolapsus, but with that exception were well. The rupture occurred suddenly (the hour is often mentioned) at the time of making a violent abdominal expulsive effort. Suddenly acute pain is experienced in the abdomen, and a large mass is found protruding from the anus. Sometimes it is noted that a flow of blood preceded the issue of the intestine. The general condition becomes speedily aggravated, the face becomes pale and Hippocratic, and the extremities cold, though the intelligence remains clear. It appears that reduc-

tion of the prolapse immediately follows the issue of the intestines. Very soon the efforts of the patient to expel the mass with which the rectum is filled cause fresh portions of the intestine to escape from the abdomen, and these spread themselves out between the thighs. The visceral mass which is thus expelled is generally large, and composed of small intestine with its mesenteric attachment. The length of the intestinal loops may be two metres, or even five (Adelmann). In Stein's case the mass included several loops of small intestine, and two inches of the cæcum. Among the intestinal loops, those which are most altered in appearance are those which have issued from the body first. These have a violet color, sometimes livid; their walls in some places show spots of ecchymosis, and are generally inert and sometimes paralyzed; they may become much distended by gas and fæces. Their serous surface is dulled, and sometimes covered with exudations, and the mesentery participates to a greater or less extent in the changes. If an effort is made to practice the rectal touch, a pedicle may be followed up into the rectum, and by this means the rupture may sometimes be found. The relaxed sphincter opposes no obstacle to the exploration. If the rupture be high enough up, the mass of intestine may prevent the entrance of the hand, and in this way prevent the diagnosis of the seat of the lesion. The existence of a rupture is, however, none the less evident; the appearance of the serous surface of the intestine, and, above all, the presence of the mesentery, should prevent any possibility of mistaking the condition for invagination. Under such circumstances one indication exists—reduction. This is not always an easy task. Brodie and Adelmann encountered insurmountable difficulties, and were forced to have recourse to laparotomy. Needham was forced to remove the constriction before reducing. Stein, after having tried in vain the reduction by elevating the pelvis, cut the intestine to allow the escape of the contents, with the hope of establishing an artificial anus. Death followed on the sixth day, from general peritonitis. The causes of the irreducibility are numerous. In the case of rupture the difficulties are greater than in a simple incision through the abdominal wall, because the effort must be in a direc-

tion not perpendicular, but more or less oblique, to the opening, in the axis of the rectum; and every effort tends to push the mass up the large intestine rather than into the rent from which it has escaped, which is never gaping, sometimes irregular, and often partly obliterated by the mesentery, thickened and infiltrated with blood. On the other hand, it is necessary to restore an enormous mass which is distended by gas and faecal matter, and, in proportion as the reduction is accomplished, the intra-abdominal pressure increases and becomes a new source of difficulty. Another and important reason of the difficulty, according to the author, is found in the neglect to appreciate the order in which the intestinal loops have appeared, and therefore in the neglect to handle them in their proper order. The reduction may best be accomplished by placing the patient on the side with one leg slightly extended and the other flexed at a right angle. An assistant separates the buttocks, and, while the patient is advised to make no effort, the surgeon, after having attempted to discover the seat of the rupture, gently empties the intestine, commencing with the loops which are the least changed from normal. From time to time gas and liquids may be made to circulate by pressing gently with the fingers from below upward the portion of the tube which he is trying to reduce.

The reduction being accomplished, something else remains necessary, for the loops constantly tend to pass the rupture and again fill up the rectum. Should the surgeon be content to place a tampon on the anus and perinaeum, and postpone active interference till another time; or should he, as in the case of Adelmann, close the rent with sutures? In the author's own case he was led, by the exhaustion of the patient, and the difficulty of reaching the rent, to postpone the operation; but it is certain that, if the operation is possible, the sutures should at once be applied as a preventive of the penetration of the faecal contents into the peritonæum. When reduction is impossible, a laparotomy must be performed. Adelmann, even after opening the abdomen, was obliged to puncture the intestine. After reduction the rectal wound should first be closed, and then the abdominal. But the author goes still further and asks whether, the re-

duction being accomplished, and the closure of the rent still being impossible, the surgeon is not authorized in making an abdominal wound for the sake of closing that in the rectum. He answers the question by the state of the patient. If the patient is prostrated, and liable to die during the operation, the laparotomy must be postponed; under opposite circumstances it may be undertaken at once. Surgical interference has not been productive of very encouraging results. Rupture of the rectum has always been fatal except in the case of Needham, and the recovery in this last was rather a fortunate accident.

The pathogeny of these rare accidents still remains to be considered. Detailed anatomical reports are very necessary in this connection, and, unfortunately, the authors who have reported these cases have neglected post-mortem examinations. The writer, however, gives a short *résumé* of the principal facts attainable. Brodie: Transverse wound of the anterior wall of the rectum two inches from the anus; no trace of ulceration in the neighborhood. Adelmann: Longitudinal rent two and a half inches long, at two and a half inches from the anus; the mucous membrane congested, and apparently eroded in some places; 200 grammes of sanguinolent fluid in the peritoneal cul-de-sac. Pyl: Rupture of the posterior wall of the rectum at an inch from the anus; four fingers could be passed through it and into the peritoneal cavity; effusion of blood into the peritonæum. Mayo: Rupture of the recto-vaginal septum at two inches from the anus, large enough to admit the end of the index-finger. Stein: Rupture ten inches long in the anterior wall. These facts show great variability in the seat and extent of the lesion. The exact state of the rectal wall is very important. The mucous membrane was found healthy by Brodie, and diseased by Adelmann. In the author's case it appeared absolutely healthy to the naked eye, but a microscopic examination showed that it was inflamed and infiltrated with white globules. The microscope should then be the test in every case; and the reports of Brodie and others—that the rectal wall was absolutely healthy—are open to question. The author also insists upon the abundant infiltration of blood in the different layers of the bowel in his

own patient. The blood formed subserous tumors like leeches gorged with blood; the mucous and serous layers were dissected; the wound in the serous membrane was twice as large as that in the mucous; and, again, a point worthy of note, all of the patients were the subjects of prolapse.

Two authors have sought to penetrate the mechanism of rupture of the rectum, Ashton and Adelmann. Ashton adopted an explanation applicable both to complete and to incomplete ruptures. The ruptures are caused by indurated masses of feces which push before them a fold of the mucous membrane and tear it from side to side. To this the author opposes the fact that the rupture is often vertical, and the absence of hard fecal matters in the peritonæum, or even in the rectum. The theory of Adelmann may perhaps apply in certain cases. It is, he says, not alone a prolapse of the mucous membrane, but a veritable hernia of the rectum, which increases until the peritonæum comes out of the anus with the other tunics. Then, when any violence is applied to the mucous membrane, the pressure exercised by the intestinal mass is sufficient to rupture the peritoneal cul-de-sac, and this mechanism furnishes at the same time an explanation of the unequal tearing of the different tunics. The author agrees with this theory, except in so far as it has to do with violence to the mucous membrane causing the final rupture. The existence of a prolapse, and the engagement of intestinal loops in the peritoneal cul-de-sac, he admits. In this way a true hernia is formed, of which the reversed rectal wall is the sac. These herniæ have been described by Uhde under the title of *hedroceles*, and a remarkable example is given by Ashhurst ("Amer. Jour. of the Med. Sci.," July, 1874), who reports a case taken from the practice of Ohle, of Dresden, in which the invaginated colon formed a tumor which filled the rectum. A physician, who was called to treat the vomiting and obstinate constipation from which the patient suffered, opened the tumor, and found within five appendices *epiploicæ*, and in the middle a portion of small intestine. Ohle did a laparotomy, and sutured the wound in the colon, but the patient died. It is probable that the following is sometimes the sequence of events: A *hedrocele* is produced during an effort; the intestinal

loops, filled with gas and with liquid, are driven into the peritoneal pouch; the continuation of the effort increases the pressure in the interior of the rectum, and contributes to the strangulation of the pedicle of the hernia; the vessels of the rectal wall are distended by the effort, and by the interference with the circulation of the large intestine; and at a given moment the pressure of the contents of the hernia ruptures the sac modified in its structure, oedematous and inflamed. Such is the pathogeny applicable to the case of Roché. In other cases the result may be brought about differently, and the essential rôle may rest with the hæmorrhoidal vessels. No amount of pressure from within the rectum is likely to be sufficient to cause its rupture. The author has made a series of experiments to test the power of the gut in this respect, and has found it sufficient to withstand the pressure of 50 to 60 ctm. of mercury. To cause rupture, a sudden force exceeding 70 ctm. is necessary; then the peritonæum ruptures first in different places, causing a noise like the tearing of parchment, and after this the other tunics give way. No such pressure within the abdomen is supposable. But that which the author believes to be admissible in these cases—the rupture of a rectal vein—it is also impossible to bring about experimentally. He has tried a series of injections into the veins to determine what amount of pressure was necessary to cause rupture, and has sometimes forced the injection through the whole venous system as far as the jugulars without effecting a rupture, and at others has ruptured a mesenteric vein and not a hæmorrhoidal.

The pathogeny of this accident is therefore complex, but the author believes it may be written as follows: The prolapsus is the predisposing cause, resulting in inflammation of the mucous membrane and dilatation and alteration of the veins. The straining causes the rupture of a vein, and the infiltration of blood among the diseased tunics of the rectum causes their rupture. There are oedema of the rectal wall, catarrh of the mucous membrane, dilatation of the veins of the mucous and submucous tissue. The wall of the vein becomes infiltrated with leucocytes, and the predisposition is established. Then, when the patient strains, his prolapse is produced and rendered irreducible. The

effort at abdominal expulsion increases the tension of the blood in the dilated vessels, rendered feeble by inflammation; a vein ruptures as in a varix of the extremities; the blood percolates the layers of the intestine all the more readily, as the infiltration of white corpuscles has prepared the way; the bloody infiltration becomes limited, the walls of the gut, dissected by the blood and already altered, break, and the hæmorrhage continues, sometimes into the peritonæum and sometimes through the anus.

The author calls attention to the probability of a similar pathogeny in cases of spontaneous rupture of the œsophagus; but his aim is to call the attention of pathologists—to whom chance may afford an opportunity to examine a ruptured œsophagus post mortem—to the anatomical condition of the veins, and to the appearance of the ruptured coats.

The author closes his study by giving the cases of this accident in full. The references are as follows: I. His own case. II. Brodie, "London Medical and Surgical Journal," vol. lvii, 1827. III. Adelmann, "Journal für Chirurgie und Augenheilkunde," 1845. IV. Pyl: case found by Adelmann in "Pyl's Aufsätzen und Beobachtungen," zweite Abtheilung, p. 130. V. Roché, "Revue Médico-Chirurgicale," 1853. VI. Mayo. VII. Stein, in Pitha und Billroth's "Handbuch."

20. M. Vincent, in speaking of the *treatment of rebellious spasmodic cystitis by dilatation through a wide wound in the perinæum*, puts little faith in the essential nature of the contraction of the neck of the bladder. For him the vesical spasm is almost always due to a material lesion—inflammation, fissure, ulceration, calculus, tumor, etc. Operations and autopsies already furnish numerous proofs in support of this assertion, which is, moreover, justified by clinical observation and by analogy with spasm of the anus and eyelids. In women dilatation of the sphincter vesicæ has given excellent results, as it has in spasm of the anus and eyelids, because the disposition of the organs is such as to allow the dilatation to be carried to a sufficient degree. In men, the narrowness and length of the canal of the urethra are opposed to the employment of dilatation—that is, of dilatation sufficient to be curative. Attempts made by the urethra are almost

always checked in grave cases. The obstacle is explained not only by the insufficiency of the dilatation, but also by the impossibility of discovering and suppressing the cause of the spasmodic cystitis. The author proposes to have recourse in rebellious cases, in persistent contracture, in spasmodic cystitis which has resisted the usual means of relief by dilatation with bougies and other urethral dilators, to dilatation through the perinæum by means of a wide wound. The operation consists in the first two steps of the operation of perineal lithotomy as practiced by Dolbeau. The section of the soft parts may be made with the bistoury or the thermocautery. The dilatation may be effected with the dilator of Dolbeau or with that of Guyon. The author has used the speculum of Ambroise Paré. Small vaginal specula may be used, the speculum of Simon, the finger, etc. The important point is to proceed with slowness and gentleness, and not to exceed a diameter of 25 or 30 mm. Within these limits no harm can be done. When the dilatation has been carried to this extent, the index-finger may be introduced to explore the cavity in all its parts, aided, if necessary, by pressure on the hypogastrium.

This intra-vesical examination with the finger permits the discovery of the cause of the rebellious cystitis, the downy state of the mucous membrane, tumors, calculi, etc. If a calculus is discovered which was hidden in the urethral examination, a tumor which can be operated upon, etc., their removal is undertaken by the appropriate means. The perineal wound permits the direct diagnosis of the cause of the contraction of the bladder, the possibility of interfering to suppress these causes, and especially by dilatation a treatment is opposed to the spasm which has proved so successful in the spasm of other sphincters, and especially in spasm of the neck of the bladder in women. By the perineal wound the sphincter in the male is rendered almost as amenable to dilatation as in the female, and with women dilatation furnishes almost constant success. Why should the same operation in the male furnish less satisfactory results?

21. M. Zancarol thinks the *distoma hæmatobium* the cause of the great frequency of vesical calculus among the native Egyptians. It is exceptional in Egypt, among the poor of the lower

classes affected with calculus, not to observe in the urine the presence of the eggs of this entozoon. The unfiltered water of the Nile serves as the vehicle by which the parasite enters the organism. The native drinks this water unfiltered; the European, on the contrary, always filters it carefully before drinking. The author gives a careful study of the parasite, with figures both of the developed organism and of the egg. The eggs are deposited in the human body in enormous numbers, being found in the portal, mesenteric, and hæmorrhoidal veins. In the vesical veins especially they accumulate, and are deposited in considerable masses in the

submucous tissue. These deposits in the submucous tissue lead to subacute and chronic infiltrations, to villous, vegetating, and fungous ulcerations, which, favored by the decomposition of the urine, sometimes are covered by incrustations which attain great size. The bladder then becomes thickened, and loses its elasticity and resistance. These incrustations, which line the mucous membrane, become detached in places, join one to another, and form the nucleus of the calculus, which grows by successive deposits. Many times the author has been able to find the eggs of the distoma in the fragments of a calculus.

QUARTERLY REPORT ON ORTHOPÆDIC SURGERY AND DISEASES OF THE JOINTS.

No. X.

By CHARLES T. POORE, M. D.,

SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN.

1. SHAFFER, N. M.—The surgery of deformities. "Ann. of Anat. and Surg.," Sept., 1882.
2. DE SAINT-GERMAIN.—Du traitement de la scoliose. "Union Méd.," Apr. 6, 15, 22, 1882.
3. JUDSON, A. B.—Mr. Shaw's view of the cause of rotation in lateral curvature of the spine. "Med. Record," Sept. 30, 1882.
4. BARTOW, B.—Spinal extension by suspension. "Buffalo Med. and Surg. Jour.," Aug., 1882.
5. ROBERTS, M. J.—Elastic tension in Pott's disease. "Illustr. Quarterly of Med. and Surg.," July, 1882.
6. STEELE, A. J.—The treatment of Pott's disease existing in the upper dorsal and cervical regions. "St. Louis Courier of Med.," Sept., 1882.
7. KASSOWITZ, M.—Die Ursache der Gelenkschlaflheit bei der Rhachitis. "Centralbl. f. Chir.," June 17, 1882.
8. SMITH, J. G.—Remarks on the early operative treatment of strumous joint disease. "Brit. Med. Jour.," Aug. 26, 1882.
9. VOGT, P.—Zur Resectionstechnik. "Centralbl. f. Chir.," Aug. 26, 1882.
10. CAZIN, H.—Du toucher rectal dans la coxalgie. "Rev. de Chir.," Mar., 1882.
11. TERRILLON.—Nouvel appareil pour le redressement des positions vicieuses de la cuisse sur le bassin. "Bull. Gén. de Thérap.," Mar. 30, 1882.
12. KNOTT, J. F.—On Hey's "internal derangement of the knee joint." "Dublin Jour. of Med. Sci.," June, 1882.
13. VANCE, Ap. M.—Case of subcutaneous supra-condyloid osteotomy for cure of genu valgum. "Med. News," June 10, 1882.
14. RUPPRECHT, P.—Zur Tarsotomie veralteter Klumpfüsse. "Centralbl. f. Chir.," Aug. 5, 1882.
15. LAGRANGE.—De l'arthrite consécutive à la contusion, à l'entorse et à la luxation des articulations des doigts. "Rev. de Chir.," Feb., 1882.
16. TERRIER, F., et VERCHÈRE, F.—De la synovite tendineuse tuberculeuse et en particulier de la synovite tuberculeuse des gaines du poignet, de la main et des doigts. *Ibid.*, July, 1882.

17. JORDAN, F.—Clinical lecture on cases showing the utility of a laminated plaster splint. "Brit. Med. Jour.," July 15, 1882.
18. STILLMAN, C. F.—The surgical mechanics of local joint extension. "Boston Med. and Surg. Jour.," Aug. 31, 1882.

5. Dr. Roberts advocates the use of *elastic tension in Pott's disease* to correct lateral deviation of the trunk. The following is his method of applying it: Two pieces of perforated tin about four or five inches long and three eighths of an inch wide are prepared. To the middle of each piece is soldered a thin piece of steel bearing a small ring. During the application of the jacket these pieces are incorporated between the layers of the bandage, one being placed on the concave side (in lateral deviation) just behind and on a level with the axillary line, the other on the opposite side at a point corresponding with the upper border of the sacro-iliac synchondrosis, and a little outside of it. A solid rubber cord is passed up through the lower ring and fastened to the upper one. A strip of non-elastic webbing, long enough to reach from the ankle to the knee, is sewed to the top of the shoe on its outer side. This is passed to the inside of the stocking, through a button-hole just above the upper margin of the shoe. The free end of the strip of webbing is provided with a ring. Through this ring the lower end of the elastic cord is passed, and drawn sufficiently tense to overcome the distortion. In cases where the belly projects, two cords are necessary, one on each side. In the latter case the lower rings are placed in front over the crest of the ilium.

8. Mr. J. G. Smith, in opening a discussion on the *early operative treatment of strumous joint disease*, at the recent meeting of the British Medical Association, discussed briefly the pathology of this form of joint trouble. The form of articular disease for which the operation of excision is most frequently performed is the strumous. Here, as elsewhere, struma manifests its presence first in lymphatic or lymph-glandular tissue. The red marrow in the ends of the long bones is a lymph-glandular organ of prime importance. The synovial and subsynovial tissues are peculiarly rich in lymphatic structures. In one of these does chronic joint disease begin at the outset, and for some portion of their course they are distinct diseases, showing different symptoms and requiring different treatment; to-

ward the end, when disorganization is complete, it may be impossible to say how they began. The pink marrow, being a blood gland, partakes actively in diseases affecting the blood-glandular system. When inflamed in a strumous subject, there is the same chronicity, the same tendency to caseation, and the same possibility of their being starting-points for a miliary tuberculosis. Inside the compact shell the gland among the bony trabeculae is unlike the subcutaneous tissue of the neck in this important point: that it has no room to swell. The proliferating tissues strangle themselves in their growth, and form little necrotic abscesses; or they force their way along the line of least resistance, which is, for many bones, toward the joint cavity, and set up suppuration of the articulation in time. This is primarily and essentially an inflammation of marrow—a myelitis. The associated changes are, in every sense, subordinate. Now, if this be the condition which exists, it is clear that the chances of spontaneous cure are not great. Grounding a practice on these principles, we begin early by giving an outlet to the inflamed and proliferating tissue by gouging and scraping away bodily the cancellous bone and the inflamed marrow which it confines.

The other form of disease is one of synovial and subsynovial tissue. The author would call it a synovial inflammation plus lymphatic obstruction. He believes that its malignancy, so to speak, is due to the blocking of the lymphatic channels, keeping up oedema, which has the further effect of compressing the veins, and so making matters worse. Up to a certain point this lymph blocking may cure itself if we judiciously assist it. In the early stages, if the joint is full of fluid, incision into the joint and free drainage may do good. But, if we go thus far, may we not go farther and remove the pulpy synovial tissue? This, then, is the position he takes when a case of incipient joint disease comes to him early—a fair trial of simple measures should be made. For synovial trouble he thinks passive movement, sometimes accompanied with gentle shampooing, ought to be carefully carried out. If, after weeks, or at most

two or three months, the disease is evidently not improving, we ought to lay the joint open antiseptically and remove as much of the pulpy degenerative material as possible, and drain it for two or three weeks. If, after this, it be not cured, excision should be done.

If the disease is medullary, absolute rest, at first inside a plaster case, and counter-irritation, especially with the actual cautery, should be tried; if these prove ineffectual, he would gouge; if this is not curative, excision should be performed. — In a discussion that followed, Mr. Teale advocated incision of the capsule, so as to allow of the continuous escape of the fluid into the tissues outside of it.

10. M. Cazin advocates *rectal examination as an aid to diagnosis in hip-joint disease*. He first points out the difficulty of ascertaining the exact seat of the disease, and of determining how far the acetabulum is involved. The coxo-femoral articulation, on account of its depth, is little accessible to examination, and from this fact rectal exploration is the readiest way to approach it. On the internal surface of the pelvis, immediately above and a little behind the obturator foramen, a smooth osseous surface is met with, almost quadrilateral, which the old anatomists did not name, but which is called the inclined plane of the pelvis. The surface corresponds to the border of the acetabulum, and is designated the post-acetabular surface. The inner portion of the cotyloid cavity in an adult is very thin, and sometimes transparent. In the child below fourteen years of age it is occupied by cartilage, divided into three branches, representing the form of the letter Y. This surface is readily accessible to the finger through the rectum. The author has examined ninety-eight cases of hip-joint disease, sixty-four of which were suppurative, and thirty-four non-suppurative. Abdominal examination enables us to detect enlarged glands in this region, or pelvic abscess, but rectal examination is more certain. Out of ninety-eight cases examined, forty-nine gave appreciable results. There were thirty-seven cases of suppurative coxalgia, and thirty-four of the non-suppurative variety. Of the latter, only twelve gave any result. In girls, the examination was made *per vaginam*. The results of these examinations have been confirmed six times by the operation of excision,

four times by autopsy, and twice by excision and autopsy.

The symptoms found on rectal touch were: localized pain, revealed by pressure on the post-cotyloid surface; the presence of engorgement of the intrapelvic glands; increase in the size of the component parts of the acetabulum; depression; destruction and perforation of the post-cotyloid surface; swelling of the soft parts; and pelvic abscesses of various sizes. The symptom most difficult to make out is pain on pressure, especially in young children. Modification in the size of the bone can be appreciated by comparison with the sound side. Thickening of the soft parts, more or less marked, more or less extended, with or without appreciable bone lesion, ordinarily indicates subperiosteal abscess behind the obturator internus, with or without perforation.

11. M. Terrillon advocates the use of *a new apparatus to correct deformities of the thigh after disease about the hip joint*. It consists of a solid tube, to which are attached two curved steel bars arched over the iliac bone, and having attached to them a thin steel plate, molded to adapt themselves to the inequalities of the lateral and anterior portions of the ilium on either side. When applied, these are fixed by screws. The object of this apparatus is to fix the pelvis so that the force applied to the limb may be direct. He reports a case in which the apparatus was used.

16. MM. Terrier and Verchère describe a *tubercular synovitis of the synovial sheaths of tendons*, more especially those of the hand and fingers. Having reported five cases, they say that this synovitis may result from a tubercular deposit in the articulation, in the bone, or in the sheath itself. In the first case it is secondary, while in the second it is primary. The tubercular nature of the affection in the cases reported was demonstrated by microscopic examination. When the tuberculization is primary, the lesions differ accordingly as the synovial tissue is ulcerated or not, or accordingly as the skin is intact or presents a loss of substance. The beginning of the affection is generally insidious. The first symptom is a small swelling on the anterior aspect of one of the fingers, at first hard and resisting. This increases little by little, and loses its consistence. Soon it becomes fluctuating. These transformations occur without any pain. The movements of the

fingers become difficult, and they assume a fixed position, either of flexion or of extension, according to the tendons involved. The alteration in the sheaths is local. Sometimes a multiplicity of these little tumors has been observed. The skin becomes adherent, finally ulcerates, and becomes perforated. This opening does not close, but becomes a fistula. The borders of the ulceration are irregular, undermined, and livid. A probe introduced into the fistulous opening of the sheath passes for some distance. The presence of pulmonary lesions is an aid to the diagnosis of the disease. Removal of the tumor has resulted in cure in three cases.

17. Mr. Jordan advocates the use of what he calls a *laminated plaster-of-Paris splint in the treatment of fractures and deformities*. The following is his method of making and applying it: The surgeon first determines how much of the limb or trunk it is well to cover. A pattern is then cut out. One layer of checked muslin does very well for this purpose, as it is stiff enough to keep its shape, and is easily marked with a pencil afterward. Other pieces of muslin are cut of the same size and shape. Six or seven layers make a good average splint; three or four will do for a child; eight or nine may be needed for a heavy, restless, or delirious patient. The first layer is laid flat on the table, and sprinkled with a stra-

tum of good, dry, powdered plaster, which is smoothed over with a spatula; on this, with its margins corresponding, is placed the next layer of muslin, which in its turn is sprinkled with plaster. The process is repeated until all the layers are in place. The splint is then slowly and carefully folded or rolled up and kept dry, ready to be dipped in water when wanted. The part to be incased is drawn into position, and held so until the plaster partially sets. Extension may be made by a temporary sling over the hand or instep, which can be drawn out or relaxed afterward. A flannel bandage, or layer of wadding, is next applied. The splint is now dipped into hot water for a moment or so. When taken out, it is very gently squeezed. The splint is then unfolded and drawn under the ailing part, and simply folded over. The overlapping margins instantly and firmly adhere to each other. For the upper limb, the laminated sheet should be large enough to overlap two or three inches; for the lower limb, the overlapping should extend three or four inches; for the trunk, to five or six. It is convenient, in making a very large splint, to envelop, say, the trunk, or the pelvis and lower limb, to put it on in two or three pieces made to overlap each other. When the pieces overlap, they amalgamate and form a perfectly homogeneous and continuous splint.

Miscellany.

MEADOWS'S MANUAL OF MIDWIFERY.—Messrs. P. Blakiston, Son & Co., of Philadelphia, have called our attention to an error in our notice of this work in the September number of the journal. The error consisted in the impression that the volume noticed by us was the first American edition of the book. It appears, however, that the Messrs. Blakiston have published several editions, and they inform us that their last edition contains all the additions made in the fourth London issue.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—At the annual meeting, held October 23d, the following officers were elected: President, David Webster; Vice-President, Andrew H. Smith; Secretary, Wesley M. Carpenter; Assistant Secretary, Charles H. Avery; Treasurer, Orlando B. Douglas; Censors, J. D. Bryant, H. B. Conrad, F. R. Sturgis, Daniel Lewis, W. R. Gillette. For delegates to the Medical Society of the State of New York: J. W. Howe, F. P. Foster, E. Gruening, D. Lewis, A.

G. Gerster, R. M. Fuller, A. V. B. Lockrow, W. F. Mittendorf, D. Webster, C. L. Dana, A. H. Smith, J. H. Ripley, J. S. Warren, S. Sexton, P. F. Mundé, C. S. Bull, W. M. Carpenter, L. Johnson, V. P. Gibney, O. D. Pomeroy, A. Hadden, W. T. Alexander, G. B. Fowler, E. L. Partridge.

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 13, 1882, to October 13, 1882.*—

WOODWARD, J. J., Major and Surgeon. Leave of absence extended four months on account of sickness. S. O. 233, A. G. O., October 6, 1882. — WATERS, W. E., Surgeon. Ordered to Madison Barracks, New York, for duty as post surgeon. S. O. 178, Department of the East, October 5, 1882. — WILLIAMS, JOHN W., Major and Surgeon, now on leave of absence. To proceed to San Francisco, California, and report in person to the commanding general, Military Division of the Pacific, for duty in Department of the Columbia. S. O. 228, A. G. O., September 30, 1882.

— WATERS, WILLIAM E., Major and Surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882. — IRWIN, B. J. D., Major and Surgeon. On being relieved as attending surgeon, Headquarters Military Division of the Missouri, to proceed to Whipple Barracks, Arizona, and report in person for duty as medical director, Headquarters Department of Arizona. S. O. 228, A. G. O., September 30, 1882.

— FORWOOD, WILLIAM H., Major and Surgeon. Relieved from duty in Department of the Platte, and to report in person to the commanding general, Military Division of the Missouri, for duty as attending surgeon at those headquarters. S. O. 228, A. G. O., September 30, 1882. — SMITH, ANDREW K., Major and Surgeon. Relieved from duty in Department of Arizona, and on expiration of present sick leave to report by letter to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882. — SMITH, ANDREW K., Major and Surgeon. Leave of absence on surgeon's certificate of disability granted in S. O. No. 131, August 22, 1882, Department of Arizona, extended two months on surgeon's certificate of disability. S. O. 214, A. G. O., September 14,

1882. — HORTON, S. M., Major and Surgeon. Granted one month's leave on surgeon's certificate of disability. S. O. 96, Department of the Platte, September 11, 1882. — WRIGHT, J. P., Surgeon. Granted one month's leave of absence, with permission to apply for extension of one month, on surgeon's certificate of disability. S. O. 181, Department of the Missouri, September 8, 1882. — SHUFELDT, R. W., Captain and Assistant Surgeon. To proceed to Jackson Barracks, New Orleans, Louisiana, and report to the commanding officer thereof for duty. S. O. 93, Department of the South, September 26, 1882. — KANE, JOHN J., Assistant Surgeon. Granted leave of absence for one month, with permission to apply for extension of three months. S. O. 202, Department of the Missouri, October 9, 1882. —

BUCHEMIN, LOUIS, Assistant Surgeon. Relieved from duty in Department of Dakota, and to report in person to the commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882. — CRAMP-
TON, LOUIS W., Captain and Assistant Surgeon. To be relieved from duty in Department of Dakota, and to report in person to the commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

— BARNETT, RICHARDS, Captain and Assistant Surgeon. Relieved from duty in Department of the Platte, and to report in person to the commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882. — McCREERY, GEORGE, Assistant Surgeon. To report in person to the Superintendent Mounted Recruiting Service, Jefferson Barracks, Missouri, to conduct a detachment of recruits to the Department of Arizona. On completion of that duty to rejoin his station in that department. S. O. 233, A. G. O., October 6, 1882. — CALDWELL, D. G., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of three months. S. O. 105, Department of the Platte, October 3, 1882. — BIRMINGHAM, H. P., Assistant Surgeon. To proceed to Fort Bayard, New Mexico, when relieved at Fort Elliott, Texas, and report to the commanding officer for duty. S. O. 198, Department of the Missouri, October 3, 1882. — EWEN, CLARENCE, Assistant Surgeon. Relieved

from duty at Fort Elliott, Texas, to proceed to Fort Gibson, Idaho Territory, and report to the commanding officer at that post for duty. S. O. 198, Department of the Missouri, October 3, 1882. ===== BURTON, H. G., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 229, A. G. O., October 2, 1882. ===== LORING, LEONARD Y., Captain and Assistant Surgeon. To be relieved from duty in the Department of the Missouri, to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882. ===== TURRILL, HENRY S., Captain and Assistant Surgeon. To be relieved from duty in Department of the East, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 228, A. G. O., September 30, 1882. ===== MOSELEY, E. B., Captain and Assistant Surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882. ===== SKINNER, JOHN O., Captain and Assistant Surgeon. To be relieved from duty in Department of Arizona, and to report in person to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882. ===== SPENCER, WILLIAM G., Captain and Assistant Surgeon. Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 219, A. G. O., September 20, 1882. ===== POWELL, J. L., Assistant Surgeon. To report at Headquarters Department of Texas, to temporarily relieve Assistant Surgeon P. Middleton as post surgeon and attending surgeon at Department Headquarters. S. O. 103, Department of Texas, September 20, 1882. ===== WAKEMAN, W. J., Assistant Surgeon. Upon being relieved at Fort Douglas, Utah Territory, to proceed to Fort Fred Steele, Washington Territory, and report for duty. S. O. 106, Department of the Platte, October 6, 1882. ===== GRAY, W. W., First Lieutenant and Assistant Surgeon. To be relieved from duty in Department

of the Columbia, and to report in person to the commanding general, Department of the South, for assignment. S. O. 237, A. G. O., October 11, 1882. ===== WAKEMAN, W. J., First Lieutenant and Assistant Surgeon. Upon being relieved at Fort Douglas, Utah Territory, to proceed to Fort Fred Steele, Washington Territory, and report to the commanding officer at that post for duty in the absence of Assistant Surgeon D. G. Caldwell, on leave of absence. S. O. 106, Department of the Platte, October 6, 1882. ===== OWEN, WILLIAM O., Jr., First Lieutenant and Assistant Surgeon. To proceed to Fort Townsend, Washington Territory, and report to the commanding officer for temporary duty at that post. S. O. 138, Department of the Columbia, September 22, 1882. ===== HOPKINS, W. E., Assistant Surgeon. Relieved from further duty at Camp Washington, Gaithesburg, Maryland, and will proceed to Fort Adams, Rhode Island, and resume his duties at that post. S. O. 168, Department of the East, September 22, 1882. ===== BUSHNELL, G. E., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 147, Department of Dakota, September 7, 1882. ===== CARTER, W. F., Assistant Surgeon. Relieved from duty at Fort Concho, Texas, to report to the commanding officer, Fort Stockton, Texas, for temporary duty as post surgeon. S. O. 103, Department of Texas, September 20, 1882. ===== MIDDLETON, P., Assistant Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond limits of the Department. S. O. 103, Department of Texas, September 20, 1882. ===== CARTER, W. F., Assistant Surgeon. Relieved from duty at Fort Concho, Texas, and to report to the commanding officer, Fort Stockton, Texas, for temporary duty as post surgeon. S. O. 103, Department of Texas, September 29, 1882. ===== HOSPITAL STEWARD FREDERICK MAYER, Fort Hays, Kansas, discharged by expiration of service September 25, and re-enlisted September 26, 1882.

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Original Communications.

OBSERVATIONS UPON THE ANATOMY OF THE
FEMALE PELVIS.

By WILLIAM M. POLK, M. D.,

PROFESSOR OF OBSTETRICS AND GYNECOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY
OF THE CITY OF NEW YORK.

IN view of the many laborers in this field, and in the face of their accomplishments, such work as I have been engaged in would seem superfluous. My excuse is this: The surgery of the pelvis in pregnant and non-pregnant subjects made it necessary that I should have a more definite idea of the topography of this region than could be obtained from any of the works at my disposal. I wished especially a better idea as to the location of the broad ligaments, the uterine artery, and the ureter. With this object I have made certain dissections, which I now beg leave to present in the form of the accompanying drawings, indulging only in such remarks as may seem essential to the proper comprehension of them.

THE PERITONÆUM.—Looking into the pelvis, we find it divided into anterior and posterior fossæ by the uterus and broad ligaments. All that portion of the membrane lying in the anterior fossa is quite loosely attached, unless it be upon the anterior surface of the uterine body. This loose attachment extends to the anterior face of the broad ligament, the pelvic wall, and in front even above, as far as an inch from the symphysis pubis. The line of the internal

os marks the point of lowest attachment upon the anterior face of the uterus, but as it is reflected to the bladder it hangs so loosely one may bring it into close relation with the upper half of the anterior cervical wall by merely pushing the uterus above its normal position, a fact to be borne in mind in operating about the vaginal face of the cervix when pushed above its natural position. The loose attachment of the peritonæum in this fossa is designed to meet the varying degrees of bladder distension, a demand it readily complies with.

Passing now to the posterior fossa, we find it divided into two compartments, one above the other. The lower is Douglas's cul-de-sac, a pouch whose mouth is on a level with the utero-sacral ligaments, which mark its entrance. Its boundaries, then, are: In front, the posterior surface of the cervix, and about the upper square inch of the posterior vaginal wall; on the sides, the utero-sacral ligaments, and the curtain of peritonæum let fall from them on to the postero-lateral aspect of the vagina; behind, the anterior surface of the rectum; and below, the layer of peritonæum, extending from its lowest rectal to its lowest vaginal attachment.

The upper compartment comprises all that large space above Douglas's cul-de-sac which is bounded by the uterus and broad ligaments in front, and the pelvic wall behind and to the sides.

The floor is broken by the mouth of Douglas's cul-de-sac, but extends from the sides of this opening (the utero-sacral ligaments) to the pelvic walls just below the level of the great sacro-sciatic foramen, the outline of the two halves being somewhat that of a right-angled triangle, the three sides being the utero-sacral ligament, the line of the base of the broad ligaments, and the pelvic walls. The space is filled in with loose connective tissue, and forms a kind of shelf overhanging the cul-de-sac; upon it the ovaries rest at the beginning of prolapse. Normally, they hang just above it, in the posterior fold of the broad ligament.

The dimensions of this retro-ovarian shelf, owing to the presence of the rectum, are less on the left side than on the right, though now and then, as in Fig. 2, they are the same on the two sides.

In the whole of the posterior fossa the attachment of the peritonæum is closer than in the anterior, and in the cul-de-sac it maintains an unvarying attachment to the posterior vaginal and anterior rectal wall.

Take the non-pregnant pelvis and draw a line from the center of the pubic symphysis to the junction of the third and fourth sacral bones, and we shall find it nearly corresponds to the lowest

portion of the peritonæum in the anterior fossa, and in the posterior as well, save in its lower compartment, the cul-de-sac.

This is greatly altered in pregnancy, however. Take a case at the thirty-sixth or thirty-eighth week, before the uterus has "fallen." We shall find the lowest level of the peritonæum (the cul-de-sac excepted) to correspond pretty nearly to a line drawn from the center of the symphysis to the promontory of the sacrum. The anterior fossa is rendered more shallow, and the posterior, save the cul-de-sac, is about obliterated, the floor of the retro-ovarian shelves being about on a level with the pelvic brim. The antero-posterior and lateral dimensions have likewise suffered reduction, because of the backward movement of the broad ligaments incident to pregnancy.

It is interesting to note the change that is wrought in the cul-de-sac. Its floor is raised somewhat by the upward stretching to which the vagina is subjected, but this alteration is small compared to the change in the level of the floor of the retro-ovarian shelves. Now, as the utero-sacral ligaments, forming as they do the edges of the retro-ovarian shelves as well as the margins of the entrance to the cul-de-sac, keep pace with the ascent of the shelves, we find them attached posteriorly to the first bone of the sacrum, near the promontory, instead of at the junction of the third and fourth bones, as before. The cervico-corporeal attachment having been correspondingly raised by the ascent of the uterus, we find the cul-de-sac converted into a deep and rather narrow channel about large enough to contain a moderately filled rectum. It is hardly necessary to say that this raising of the peritonæum and ligaments is the result of the enlargement and upward movement of the uterus.

THE LIGAMENTS.—I will speak only of the broad and the utero-sacral ligaments, as the round ligaments are contained in the broad, and the utero-vesical are difficult to demonstrate and of little importance.

The utero-sacral are, perhaps, more important than any, as they are so largely concerned in preventing procidentia. We have already had occasion to mention their relations to the cul-de-sac and the retro-ovarian shelves, and have spoken of the change of position they undergo in pregnancy. They contain small vessels, capable of causing troublesome bleeding if injured. They extend from the cervico-corporeal junction on either side back to the sacrum, at the junction of the third and fourth bones; they may run directly back, or be deflected to the left by the rectum, as they pass on either side of the intestine to reach their insertion. They can usually be mapped out during life by drawing down the cervix with a tenaculum, then passing the finger into the rectum and making an

exploration of the posterior uterine face. They will be felt as taut bands stretching from the uterus to the sacrum. In pregnancy they occupy a position but little below the pelvic brim, their posterior attachment being just below the promontory, the anterior to the cervix as before, but to a cervix much higher in the pelvis.

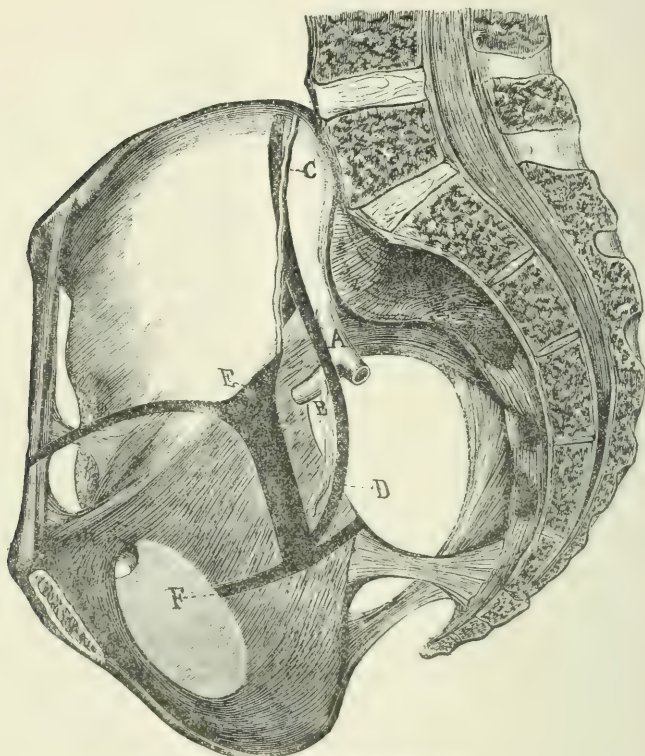


FIG. 1.—THE RIGHT PELVIC WALL.

A, internal iliac artery, anterior branch turned aside to show origin of uterine artery; B, uterine artery; C, ovarian artery; D, course of ureter projected on pelvic wall; E, line of pelvic attachment of the broad ligament; F, line of the base of the broad ligament.

(The line leading to Poupart's ligament is erroneous, and is not to be considered.)

The broad ligaments pass from the sides of the uterus to the pelvic walls. They are not taut, but hang rather loose, permitting a wide range of antero-posterior movement in the upper part of the uterus. The upper margin is concave from side to side (see Fig. 2), and is formed by the Fallopian tube for the two inner thirds of its extent, the outer third containing the ovarian vessels, passing to and from the pelvic wall; hanging loose from about the center of this concave upper margin, and resting upon the posterior surface of the ligament, we have the ovary, its long axis being more nearly perpendicular to, than parallel with, the plane of the pelvic inlet.

Upon the anterior face of the ligament, as it hangs, we can easily trace the round ligament running from the horn of the uterus, below the level of the Fallopian tube, curving up to cross the pelvic inlet at the pectineal eminence.

The lower border or base of the broad ligaments rests upon the mass of connective tissue filling in the space between the levator-ani muscle and the vaginal walls. Looking at the borders, we find them to be attached as follows: The inner to the sides of the uterus from the utero-vaginal junction to the horn, the lower to the connective tissue filling the angle between the upper part of the vagina and the levator-ani muscle. This border reaches from the lateral aspect of the utero-vaginal junction to a spot on the ischium, just in front of the spinous process. The outer border varies quite commonly. In some cases its attachment runs from the spot in front of the spine directly up to the pelvic inlet, striking it a little behind a point midway between the pectineal eminence and the sacro-iliac synchondrosis, passing thus along the posterior half of the body of the ischium, just in front of the great sacro-sciatic foramen. In other cases this outer border runs obliquely upward and backward to the synchondrosis, thus crossing the upper and anterior portion of the great sacro-sciatic foramen.

In seeking for an explanation of the difference in the attachment of the outer border, it was noticed in women who had borne children, and who were then in the child-bearing period of life, that the posterior attachment prevailed, while in virgins, or at least in those who had not been pregnant, the anterior attachment prevailed. We have also noticed the anterior attachment in one subject long past the menopause (sixty-seven years old).

In pregnancy these ligaments undergo the same upward movement as the utero-sacral. They become spread out on the sides of the uterus, the base being about on a line with the pelvic inlet, and very much widened, extending from the pectineal eminence in front to the synchondrosis behind, the anterior point being that at which the round ligament crosses the brim, the posterior that at which the ovarian vessels cross.

THE UTERINE ARTERY.—This vessel is a branch of the anterior trunk of the internal iliac. It is given off nearly on a level with the pectineal line, just in front of the synchondrosis. It passes obliquely downward and forward, crossing the upper anterior portion of the great sacro-sciatic foramen, and reaching the body of the ischium above the spine. Just above the spine it begins to leave the pelvic wall, turning inward but still pursuing its downward course till it reaches a point midway between the spine of the

ischium and the tuberosity, measured from above downward, and midway between the pelvic wall and vagina, measured from side to side; then it begins to ascend, reaching the uterus about at the

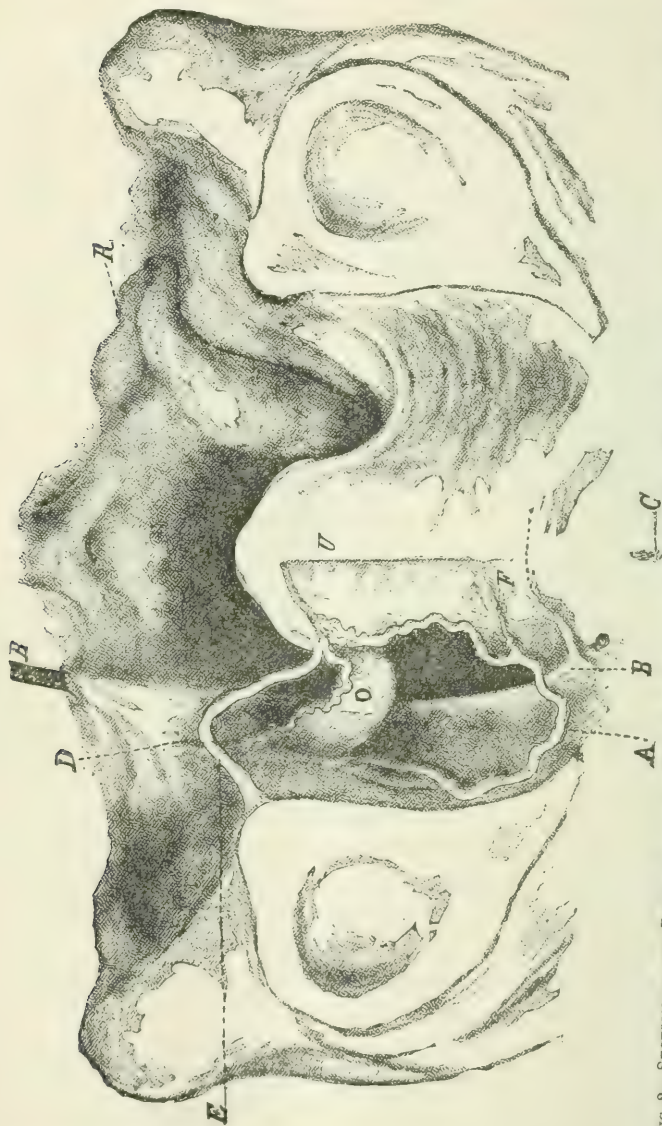


FIG. 2.—SECTION OF THE PELVIS, EXTENDING FROM THE PECTINEAL EMINENCE ABOVE TO THE LESSER SACRO-SCIATIC FORAMEN BELOW. On the right the broad ligament has been removed. On the left it has been left intact.

U, uterus, right side, freed of peritoneum; O, ovary; C, base of bladder, showing urethral orifice; organ cut away on a level with the utero-vaginal junction; above this, at F, we have the circular artery of the cervix; A, a branch of the uterine artery; B, B', ureter with a probe passing through it; D, ovarian artery; E, round ligament held up to show the ovary and vessels behind it; K, rectum.

utero-vaginal junction. Passing up the side of the uterus, it finally anastomoses with the ovarian. It sends numerous branches to the uterus, one of the chief being the circular artery of the cervix. This is given off at the level of the internal os, anastomosing with

its fellow of the opposite side. The vessel and its branches are quite tortuous, and that portion extending from the pelvic wall to the uterus is, with the tissues in which it lies embedded, freely movable in all directions.

In all cases having the posterior attachment of the broad ligament the course of the artery is within its folds, running first in the outer, then in the lower, and finally ending in the inner border. Where the anterior attachment obtains, the artery for a short portion of its course is behind the ligament. This is above the spine of the ischium. In pregnancy, like the ovarian, it is greatly enlarged, and, as might be expected, does not dip quite so low as in the non-pregnant state.

It is rather difficult to fix points as guides to the artery, but in general it may be stated that the anterior and upper portion of the great sacro-sciatic foramen contains the first part of its course, the vessel here resting on the upper fibers of the pyramidalis muscle. A finger's breadth above the ischial spine we have the point of departure from the pelvic wall. At the center of the lateral aspect of the utero-vaginal junction we have the point of first contact with this wall, its further course being directly up the central line of the lateral aspect of the uterus. Having located the point at which it leaves the pelvic wall, and that at which it reaches the utero-vaginal junction, we may get some idea of its course between the two by remembering that it follows the line of the lower attachment or base of the broad ligament. As said before, this portion is the most tortuous, and is as freely movable as the roof of the vagina; and, as shown in the drawing, the lowest point of its downward curve is about on a line with the external os, the uterus hanging naturally in the pelvis. In this portion of its course it passes directly over the ureter, resting upon but not closely attached to it. In pregnancy the vessel follows the upward movement of the uterus, its lower curve getting above the ischial spine.

THE OVARIAN ARTERY.—This vessel extends along the lower surface of the Fallopian tube, between it and the ovary. Reaching the uterus at the horn, it leaves the pelvic wall near the synchondrosis, or at a point about an inch in front of it, varying with the attachment of the outer border of the broad ligament. It may be said to run in the upper border of the broad ligament.

THE RELATIONS OF THE URETER.—From the kidneys to the inlet of the pelvis their course is vertical. Just above the posterior end of the crest of the ilium their line of descent is intersected at an acute angle by that of the ovarian vessels. On the right side it passes inside of the attachment of the cæcum and vermi-

form appendix. On the left it passes beneath the attachment of the sigmoid flexure. They strike the inlet of the pelvis near the bifurcation of the common iliac artery, just in front of it on the right, just behind it on the left. Where the broad ligament has the anterior attachment, they hug the pelvic wall till they reach the lower part of this attachment just above the spine of the ischium. In that portion of its course, on the right side it lies just behind the uterine artery, passing just in front of the internal iliac artery. On the left it crosses the internal iliac obliquely from above downward and forward.

Although behind the uterine artery, as on the right side, it is twice the distance from it till the broad ligament is reached, when the relations become much as they are on the right side. On both sides their line cuts the upper and anterior portion of the great sacro-sciatic foramen, the left farther back than the right. Starting

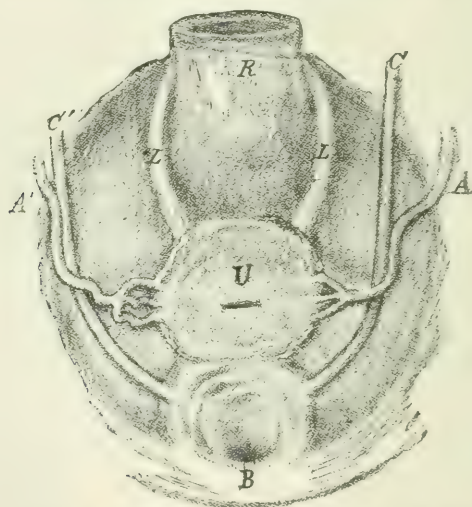


FIG. 3.—FLOOR OF THE PELVIS. The uterus and broad ligaments with the bladder cut away on a level with the internal uterine os.

U, uterus; B, bladder; R, rectum; A A', uterine arteries; C C', ureters; L, utero-sacral ligaments.

now from the spines of the ischia, we find the left a little closer to the spine than the right; both are embraced in the folds of the base of the broad ligament. Curving inward, downward, and forward, they pass obliquely beneath the uterine artery, emerging somewhat nearer to the utero-vaginal junction than to the pelvic wall, touching the antero-lateral vaginal wall in their descent just below the level of the external os, finally ending in the base of the bladder, about an inch below and to the front of the anterior cervical lip.

In this oblique course across the pelvic floor they are from three fourths of an inch to an inch from the utero-vaginal junction, first outside, then below and in front, preserving this distance because of the downward course.

In cases having the posterior attachment of the broad ligament, the relations of the ureter after passing the ischial spines are the same as those just given; from the pelvic inlet to the spines they are somewhat different.

They are in the folds of the broad ligament the entire distance; consequently they do not hug the pelvic wall, but gradually leave it, passing about half an inch to the inner side and a little above the spines of the ischia. In this course their relations with the uterine artery are less intimate than in cases of the anterior attachment. This relation more nearly resembles that which we have in pregnancy.

In one case it was found that the left ureter lay in the outer two thirds of the left utero-sacral ligament, in this instance the ligaments having an attachment a good deal to the left of the central line of the sacrum. *In pregnancy* the relations of the ureters are of importance because of the dangers to them in the operations of gastro-elytrotomy and extirpation (Porro's operation). This we treated of in a former number of this journal. To avoid repetition, then, we beg leave to refer those interested in the subject to the issue of the journal for May of this year.

ON SOME POINTS IN THE MANAGEMENT OF PLACENTA PRÆVIA, WITH NOTES OF FOUR CASES.

By EDWARD L. PARTRIDGE, M. D.,

INSTRUCTOR IN OBSTETRICS IN THE COLLEGE OF PHYSICIANS AND SURGEONS; ATTENDING PHYSICIAN TO THE NURSERY AND CHILD'S HOSPITAL; FELLOW OF THE NEW YORK OBSTETRICAL SOCIETY, ETC.

CASE I.—*Placenta prævia centralis. Induction of labor. Mother and child lived.*—Mrs. S., aged thirty-seven. Before this, her seventh pregnancy, her history was unimportant. Last menstruation July 6th to 8th. Labor induced April 12, 1879. In January, previous to labor, a moderate, painless discharge of blood occurred, lasting three days. In February there was a repetition of this. At the middle of March she sustained a severe hæmorrhage, losing more than eight ounces in a few hours, and in the next three days there was moderate discharge. From April 9th to 12th she remained in bed, passing liquid and coagulated blood to the amount of eight ounces, but having no pain.

When first seen on the 12th, at the request of Dr. J. H. Fruitnight, she showed somewhat the effects of loss of blood. The face and mucous membrane of lips and eyelids were somewhat blanched, with pulse slightly accelerated.

Local examination revealed os high in the pelvis; cervix soft, and two inches in length. Two fingers might be passed within it, and the placental structure detected in all directions. Pulsations of the foetal heart were 152, most distinct in right hypogastrium. Uterine souffle was most marked *above* line of umbilicus, toward the left side. Palpation showed child's head inferiorly, and a little to the left of the median line, the breech to the right superiorly. No labor pains had occurred. Immediate delivery seemed to be the proper treatment.

At 9 P. M. of the 12th, Drs. J. W. Wright and Fruitnight assisting, Barnes's dilators were employed until dilatation of the os was accomplished. I then passed my hand into vagina, with fingers in the cervix, and began to separate, rapidly, the placenta from its uterine attachment. At first this was done in all directions, with the hope that at some point its margin would be reached at no great distance from the os; but, not finding the placental border within easy reach, and profuse hæmorrhage commencing, I chose to advance in the direction (toward the mother's left) which, owing to the child's position in utero, offered the most ready access to the feet.

Passing my hand between the membranes and the uterus, until near the fundus, the left foot was easily distinguished, and seized through the membranes, version was performed, the arms were brought down, and the child was extracted forty-five minutes after the introduction of the first dilator. The placenta came with the child, about four ounces of blood being lost during delivery. Child weighed eight pounds, and was easily resuscitated. No condition of shock followed the rapid delivery. The placenta was nearly circular, of large size, and had in its center, at the point of implantation over the os, a spot of condensed fibrous tissue.

(This case was reported in the "Medical Record" for May 31, 1879.)

CASE II.—*Placenta prævia partialis. Induction of labor. Mother lived. Child still-born.*—Mrs. L., aged thirty-eight. Her first pregnancy occurred in August, 1879, after six years of married life. The child was small, and at its birth no perineal laceration took place. She menstruated in the following December from the 13th to 17th, while nursing, and from this period her second pregnancy dated. In January she came to me seeking relief from uterine symptoms, not supposing herself pregnant. The uterus was low in the pelvis, the cervix two inches in length, projecting half an inch from the vulva. During first three months of gestation the cervix could be kept within the ostium vaginae by means only of a pessary. With this exception, pregnancy advanced normally until July 10th, when, on rising, a sharp hæmorrhage filled the vagina with clots. During the next week two similar discharges took place. From July 17th to 22d daily hæmorrhages occurred, some quite severe, pulse ranging between 90 and 120. On the 17th Dr. F. P. Foster had seen the patient with me, and confirmed the diagnosis of placenta prævia partialis. Interference was to be postponed until imperatively demanded.

Between 4 and 7 P. M., on the 23d, about six ounces of blood were lost. At the latter hour the vagina was filled with coagula; pulse 120. The end of the seventh month having been reached, longer delay being dangerous, the middle-sized Barnes's dilator was introduced, and in three quarters of an hour removed. The placenta could be felt anteriorly and to the left, an extent of surface as large as the palms of the fingers being torn off. Slight flow attended the exchange of dilators. The largest was in position an hour. Pains occurred at long intervals at first, but every three or four minutes toward the end, being at no time efficient. After removal of the largest dilator slight bleeding occurred.

The examining finger, entering the os to the right and posteriorly, reached the vertex. The membranes were ruptured, and the liquor amnii was allowed exit, with the hope that uterine contractions would engage the head, and hæmorrhage be prevented. Uterine action was not sufficient to force the head down upon the border of the placenta, and hæmorrhage continued. Accordingly, the forceps was applied. The first blade was easily introduced, care being taken to avoid detaching the placenta. Considerable difficulty attended the introduction of the second blade, owing to extreme length of the cervix (about three inches).

During its application free hæmorrhage took place. Half an hour was required for delivery, during which there was constant moderate flow, the uterus being so low and cervix so long that the anterior border of the external os was in view. Attending and after removal of the placenta no loss of blood took place. Patient was very weak during operation, pulse being between 120 and 130. Placenta was not as thick, yet as broad, as at term labor.

Child still-born and small.

Convalescence normal, except that strength came more slowly than usual. Her pulse did not fall below 100 for five days. During delivery Dr. F. W. Merriam rendered assistance.

CASE III.—*Placenta prævia partialis. Induction of labor. Mother and child lived.*—Mrs. R., aged twenty-five. First pregnancy. Was seen in consultation with Dr. H. H. Kane, the previous history being that her last menstruation was May 8, 1880. About December 10th she had a severe hæmorrhage. On December 14th, 16th, and 18th, also, hæmorrhages took place. Dr. Kane estimated that the entire loss of blood was about thirty ounces. At 9 P. M., December 20, 1880, hæmorrhage occurred. When seen at midnight her pulse was 90, bleeding continuing moderately. Os would admit one finger, and both it and the vagina were filled with soft coagula, placental structure being readily felt.

Patient complained of "bearing-down feeling," but had no labor pains. Bed-clothing was saturated, and clots were everywhere under and about her. Upon careful estimate, twenty ounces of blood were believed to have been lost at this time. Ether was given, and Barnes's bags were employed, the middle-sized for three fourths of, and the largest for half, an hour. During their presence and interchange no bleeding occurred. The fetal heart was heard midway between navel and spine of right ilium. No uterine souffle could be heard. After removal of the largest dilator, it was found that, when the finger was pushed as far into the uterus as possible toward the mother's right, the edge of the placenta could be reached and a head presentation appreciated. No uterine contractions of any consequence were present.

The right hand was passed through the membranes at the nearest edge of the placenta and carried in the direction in which the feet were known to be. The latter were immediately caught (the left and then the right) and brought down together. Extraction was not difficult. Pulse ranged between 104 and 130 during operative procedures. Child did well, though it required somewhat prolonged attention before respiration was well established. Examination of the placenta showed that from a quarter to one third of its area had been exposed during labor. Convalescence good.

CASE IV.—*Placenta prævia marginalis. Spontaneous labor. Mother and child lived.*—Mrs. G., aged twenty-eight, was unable to recall with any accuracy the date of last menstruation, or that of quickening. The pregnancy was her sixth. About April 1, 1881, had a severe hæmorrhage. One week later this

was repeated. On April 25th, during entire day, blood escaped in moderate amount, and after 9 P. M. the discharge was profuse. Slight labor pains had been experienced. I was called to see the patient at 11 P. M., by Dr. A. C. Patterson, who was in attendance. Clots filled the vagina, and were abundant in the bed, clothing being saturated. The os would admit three fingers; the placenta was readily distinguished at its left margin, but no presenting part could be touched. Chloroform being given, a more complete examination disclosed the left arm presenting, lying against the thorax, the back of the child being anterior.

The cervix being very soft, I was able to rapidly effect its expansion with my fingers.

Internal version was performed, the left leg alone being brought down. Placenta was born on top of the child's head. The child was small, appearing to be of a little less than seven months' development. It lived several days, prematurity being probably the chief cause of its death.

In a brief consideration of the cases narrated, I wish to confine myself to the subject of treatment. In these histories there are presented no special points of interest bearing upon the etiology of the abnormal relations of intra-uterine contents, nor upon the source and immediate cause of hæmorrhage.

Regarding these latter subjects, there is much that must remain unknown.

While in a few instances we are able to discover the reason for low implantation of the placenta, in the very large majority we must admit our failure to recognize a cause.

When we come to consider the clinical phenomena attached to the condition, and strive to find an explanation of them, we at once encounter an array of ingenious theories which have been advanced from time to time, many of them having received the ardent support of noted obstetric authorities. While inquiry into the merits of these various theories is full of interest, the purpose of this enumeration of cases is intended to be practical.

I desire, therefore, to picture the abnormal relations of intra-uterine parts, and admit, without other argument, that we are liable to find, proceeding from them, circumstances of much gravity. The disruption between placenta and uterus *must* occur when labor is established, if it has not occurred before. Any one—or a combination—of many causes may lead to hæmorrhage during pregnancy. Of these causes operating during pregnancy, a large number are as truly accidental as in placental detachment from its normal situation.

Given a case of placenta prævia, our duty is, first, to select a *plan* of treatment; second, to carry out its details in the way best suited to prevent a loss of blood which has often been sufficient to prove fatal to the child and to the mother.

Regarding the value of induction of labor, most of what can be

said is but a repetition of that which has been forcibly stated by those who were early in the field to urge the claims of this plan of treatment to the consideration of the profession.

To the mother it offers much promise of a safe issue from her dangerous condition, because the time of her delivery is of necessity that which the judgment of the obstetrician selects as the period at which her life is least menaced. There is never danger of the false step of inducing labor in the *mistaken* belief that placenta prævia exists, because an error in diagnosis is hardly possible, owing to the early and reliable signs pointing to the nature of the disorder.

Placenta prævia may prove fatal directly from hæmorrhage before the child can be born—even before the establishment of labor. Repeated loss of blood may produce a prostration of vital powers which renders the woman unable to bear the tax of labor. When labor is happily past we have to meet the dangers of exsanguination, the latter greatly favoring peripheral thrombosis and septic poisoning.

The more remote results of a great loss of the vital fluid are often overlooked, owing to the greater impression made by the events of labor. A profound effect may remain upon the general health, resulting in neuroses or visceral disorders, or favoring the development of inherited tendencies to disease.

An enfeebled condition from loss of blood will be attended, usually, by imperfect retrograde changes in the pelvic organs. Defective innervation is necessarily present, and the natural retrograde processes can not properly take place. The first result is imperfect uterine contraction. Later we have subinvolution, areolar hyperplasia, malpositions, and other local troubles, which persist long after their cause—excessive loss of blood—has been forgotten as a factor in their production. Early induction of labor must obviate this to a great degree.

To the patient who is allowed to proceed with her pregnancy and to sustain the occasional alarming hæmorrhages, there comes a sense of uneasiness and mental disquietude.

Her attendant can not conceal the fact of danger, or quiet her fears, as can often be done in other equally alarming but less apparent complications of pregnancy. The part which mental emotion plays in the causation of complications to the parturient or lying-in woman is too well known to require emphasis or illustration. Again, in our remedy we show definitely to our patient a *plan* of treatment for her relief which she can appreciate, which reassures her, and, for this reason, facilitates recovery.

By the premature removal of the child, when placenta prævia exists, we need not feel that we lessen its prospects of life and health ; and this may be stated to and appreciated by the mother.

“An eight-months child out of the uterus, and depending upon pulmonary respiration, has a decidedly brighter prospect for life than one in that cavity, depending for aëration of its blood upon a crippled and bleeding placenta.” (Thomas.)

The four illustrative cases recorded have brought clearly to my mind certain minor points in the management of “unavoidable hæmorrhage.” Every individual experience must accomplish the same ; therefore, while I have nothing new to advance, I shall be glad to do my part toward an interchange of opinion upon these points. In placenta prævia, it having been decided to induce labor, the treatment has, for a first object, the securing of cervical dilatation, with a minimum loss of blood. The second purpose of obstetrical interference is the extraction of the child, with a continued effort at the prevention of hæmorrhage.

In the vast majority of cases, from the beginning of the process of delivery to its termination, artificial measures are called for. Natural processes must be ignored *throughout*.

In the cases narrated, the early part of the treatment consisted in the use of Barnes’s dilators ; and, in the light of my experience, there can be no better method employed. They have an advantage over other means, in that they accomplish dilatation within a brief period of time. During dilatation by their aid it is impossible for hæmorrhage to take place.

If the ordinary vaginal tampon or the colpeurynter be used, dilatation of the os occurs from *uterine* action chiefly, which is stimulated by the presence of the irritating material composing the tampon, or by blood which is retained by it in the cervix and upper vagina.

The dilators of Barnes operate *mechanically* upon the *bleeding cervical region*, and unerringly, rapidly, and safely effect a satisfactory dilatation of the cervix.

The dilatation brought about by an ordinary vaginal tampon must require, in many cases, a period of time which necessitates its repeated removal and replacement. During this interchange hæmorrhage occurs.

On the other hand, when a Barnes’s bag is replaced by the next in size, hæmorrhage does not occur, for the reason that the dilator has acted as a cervical tampon, and, the middle of the bag being grasped by the cervix, and its upper end being flattened by the resistance of the placenta, a lateral expansion of the upper compart-

ment occurs which separates the placenta from its attachment for a little distance beyond the margin of the internal os. Little or no hæmorrhage ensues upon the removal of the bag, therefore, for it has accomplished the same end as that gained by the plan of Barnes, which brings about a like partial placental detachment by the finger.

When dilatation is brought about by the dilators, the attendant will be present, necessarily, during the entire process of delivery. If he employs vaginal tamponing, it can not be expected of him to remain constantly throughout the period of dilatation, which may occupy hours or days. If he intelligently and perfectly applies the vaginal plug, it would indeed be safe for him to absent himself from the case, to return only at such times as a renewal of the tampon would be demanded. The inexperienced or careless physician, however, often fails to properly apply the tampon, and it is quite possible, and has more than once happened, that straining or other voluntary effort on the part of the woman dislodges the plug, and, in the absence of the attendant, dangerous and even fatal hæmorrhage may occur.

Another point to be considered is the danger of septic poisoning to which the subject of unavoidable hæmorrhage is exposed. This danger is increased in this class of cases because of the lowness of the placental site, and the consequent facility with which germs of disease can be brought to it.

The smooth, non-absorbent rubber bag, applied for a short time, must be far more safe than any porous, absorbing material which entangles blood and vaginal secretions in its meshes, and is often retained long after decomposition has commenced. The application and replacement of the latter, too, add to the danger by requiring no inconsiderable manipulative treatment.

Having, as I hope, indicated the advantages attending the employment of the water-bags of Barnes in the stage of dilatation, I wish to call attention to one further fact in the management of placenta prævia.

Most authors, in treating of the best method for the extraction of the child, have in mind the case of labor coming on spontaneously either before or at full term. I would call attention to a difference between the condition present under those circumstances and that when labor is induced.

In an instance of the latter kind, during the artificial dilatation of the cervix, contractions of the uterus are evoked, and by the end of the first stage of labor the uterus is acting regularly, but *not* efficiently.

A special reason for the noticeable fact that, when the placenta is prævia, measures producing cervical dilatation do not provoke much uterine action is found in the peculiar condition of the cervix. It is soft, abundantly supplied with blood-vessels and sinuses, but less so with contractile uterine fiber, and offers very slight resistance to any dilating force. The cervix can be dilated so easily and in so short a time that the uterus, through its nervous system, receives but little stimulation to action. There is rarely such dilatability when the cervix is in a normal condition; therefore, when a healthy cervix is expanded artificially, some uterine activity is excited during the process.

In placenta prævia, when the first stage is completed, the attendant finds himself called upon to select the method best suited to delivery.

Rupture of membranes to allow the uterus to crowd the head upon the placenta, the forceps, and version, are principally thought of, the latter being chiefly favored.

I should feel that, almost without exception, version would be the safest method by which to effect delivery when labor was induced.

The uterine contractions which have been excited artificially are not of that character which is essential to a prompt engagement and descent of the head. They lack expulsive power, and are even of but little assistance to delivery by forceps. The use of the latter instrument is attended by some little difficulty, owing to the care and time necessary, during its application, to an avoidance of the placenta which lies in or near the cervix, and from the length and thickness of the cervix, not uncommonly present, which offer a certain impediment to delivery.

An illustration of these difficulties is seen in the second case which I have recorded, which, I am sure, would have been more appropriately treated by version.

THE HISTOLOGY OF THE SALIVARY GLANDS.

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MODERN physiological research has imparted a new stimulus to histological investigations. For the fact is now well established that, in many tissues and organs, functional activity and rest, alternating, represent phases of life, each accompanied by distinctly

recognizable morphological changes. No organs or class of organs have been more carefully, industriously, and, withal, ingeniously studied, in this direction, than the salivary glands. But, although abundant new evidence has thus been accumulated, it can not be said that the testimony of different authors has so far succeeded in harmonizing conflicting views and contending theories. It will be the aim of the writer to avoid theoretical and controversial reasonings as much as possible, and present the subject in its present aspect of real knowledge.

All the glands of this group belong to the compound acinous type. Here, at the very outset, we are confronted by the assertions of Grot and Klein, who positively declare that the salivary glands are exclusively made up of convoluted tubes. From the repeated examination of numerous specimens of different glands, the writer is satisfied that the acinous preponderates very decidedly over the tubular form, and hence it is more correct to class them under the former category.

It may also be mentioned, in this connection, that Bermann has described the normal occurrence of a compound tubular mucous gland found in intimate relationship with the submaxillary of man and several animals. Heidenhain, however, has demonstrated that the organ described by Bermann really corresponds to the sublingual gland.

The salivary glands lie inclosed in a connective-tissue capsule of varying thickness. From this envelope trabecles are given off, and, traversing the organ in all directions, divide it into secondary lobes and lobules. In this supporting frame-work leucocytes are found in greater or less abundance, surrounding the interlobular ducts and vessels. In addition, large plasma cells (Waldeyer), or Ehrlich's corpuscles (*Mustzellen*), are commonly encountered. The excretory ducts form a system of ramifying tubes, terminating in the secreting acini or vesicles.

Each acinus consists of a *membrana propria* (basement membrane) lined by a varying number of secreting cells. In fresh specimens derived from animals recently killed, the *membrana propria* invariably appears as a very delicate, translucent, and apparently structureless membrane. In sections of hardened glands, flattened oval nuclei are found studding it.

Boll, Heidenhain, Lavdovsky, and, in fact, most recent authors, assert that the *membrana propria* is composed of flat, branching cells, which form a basket-like reticulum, containing the secreting corpuscles. The writer can not concur in this view. Branching, nucleated bodies of the kind described by these authors are, in-

deed, readily visible after suitable modes of preparation. But they usually lie outside of the membrana propria, being superimposed to afford the necessary additional strength to this extremely delicate membrane. Pflüger described them as multipolar ganglion cells. But his views are clearly erroneous, having been refuted by all later investigators, with but few exceptions. One of these, Kupffer, claims to have succeeded in demonstrating the direct entrance of nerve fibrils into the glandular acini in the cockroach (*Blatta orientalis*). But even this author failed to corroborate the assertions of Pflüger with regard to man and the higher animals.

According to the observations of the author, the membrana propria is a nucleated connective-tissue membrane. In the foetus it is first formed in the following way: Solid proliferating plugs of epithelia, representing the future parenchyma, grow into the surrounding embryonic tissue. The layer of connective-tissue cells immediately adjoining the epithelia gradually assumes a flattened shape. At length these corpuscles coalesce and form a richly nucleated membrane. In later life some of the nuclei atrophy and disappear, but a certain number usually persist. For this reason the membrana propria in adult glands appears as a homogeneous membrane, containing a varying number of nuclei. The branched cells are superimposed, or lie beneath it; but, while they are found to adhere to it, they, nevertheless, do not form true constituent elements of the membrane in question.

The epithelia of the proper gland substance usually line the basement membrane, in a single layer of nucleated, pyramidal, cuboidal, or polyhedral cells. In structure they differ rather widely in the various glands belonging to this group. It will be well, therefore, to consider, separately, first the cells of the albuminous glands, and then those of the mucous type.

1. *Albuminous Glands*.—Formerly these were known as “serous” glands, since the product of their secretion was apparently a serous fluid. Recently, however, Heidenhain has demonstrated the abundant presence of albuminoid matter therein. Glands of this type are, therefore, more properly called albuminous. The parotid gland of man and mammals generally, the lachrymal glands, the submaxillary glands of certain animals, and the larger portion of the human submaxillary gland, are included in this category.

In fresh specimens the cells of their alveoli appear to be so completely filled up with darkly granular matter that their boundaries are either invisible or quite obscure. Sections of hardened glands, however, show the intercellular boundary lines clearly marked. The form of these corpuscles is now seen to be either somewhat

rounded or polygonal. Each one is, as a rule, provided with a pale, spherical nucleus, occupying a peripheral position—i. e., approaching the *membrana propria*. In hardened specimens of resting glands, the nuclei commonly assume a stellate or angular form, the result of shrinkage. As regards the size of the salivary epithelia, their average diameter is 0.015 mm., the nuclei measuring 0.006 mm. It should be borne in mind, however, that many cells fall considerably below this average, whereas others measurably exceed it.

2. *The Mucous Glands*.—In the simplest glands of this type the alveoli contain a single layer of large, clear, transparent, columnar cells, almost identical in appearance with the so-called goblet cells of the alimentary canal. In recent specimens the nucleus is found round or oval, but in hardened glands it appears quite flat. In all cases it almost lies in contact with the *membrana propria*.

But the glands of this variety contain, in addition to the simple mucous cells just described, smaller and very granular bodies, which are known as the *creascentes*, or *lunulae*, of Giannuzzi. They usually occur in semilunar groups, and are found external to the mucous cells, and just beneath the basement membrane. The individual cells of such groups are not always provided with a nucleus. In some, however, two nuclei appear.

Isolated mucous cells (maceration of fresh gland in iodized serum or chromate of ammonium) appear to be furnished with a distinct cell-membrane. A protoplasmic process also juts out from the vicinity of the nucleus. While in situ these processes are placed in apposition to the *membrana propria*. They become deeply tinged in stained specimens. The contents of these mucous cells is a clear substance, containing a few granules, and giving the characteristic micro-chemical reactions of mucin.

As regards the granular crescents, their behavior under the application of different chemical reagents leaves no doubt as to the albuminoid nature of their cell-substance. There is an infinite variety in the proportion of albuminous cells to crescents. For we find in some glands a very marked preponderance of one variety of corpuscular elements over another, whereas in others they are about equally distributed.

Having thus briefly indicated the characteristic appearances of the cellular constituents of the alveoli, as found in glands which had been at rest before being examined, we are now prepared to appreciate the *morphological changes occurring in the active organs*.

In the quiescent state of the gland, then, the protoplasm of its alveolar cells is gradually converted into a material resembling the

ultimate product of secretion. It is but natural, therefore, to find in gland cells which have enjoyed prolonged rest a small proportion of protoplasm. In fact, as has been already stated, the quiescent gland is marked by the coarsely granular appearance of the secreting corpuscles, and by a more or less complete obscurity both of cell-boundaries and of nuclei. In the mucous glands this is due to the abundant presence of mucigenous material, destined subsequently to become converted into mucin.

But let a proper stimulus now waken the dormant activity of the gland, and interesting changes are at once inaugurated. The cells gradually lose their granular aspect, distinct boundary-lines become visible, and the nucleus appears. In glands exhausted by protracted secretion or excessive stimulation, we accordingly find conspicuous nuclei, shrunken alveolar corpuscles, and small granular cells closely resembling the crescents of Giannuzzi. The entire alveolus appears reduced in size. At length, in typical mucous glands, the large, clear, mucous cells are found to have entirely disappeared. Heidenhain and his followers have concluded, from these easily demonstrable and constantly recurring phenomena, that the mucous cells suffer actual destruction, and that restitution of the alveolar epithelium occurs in consequence of proliferation of the parietal cells.

The writer can not accept this interpretation. His own observations point to the probability that actual disintegration of the secreting cells occurs only under pathological conditions. The mucous cells disgorge the mucin which has been formed within them by protoplasmic metamorphosis, they alter their appearance considerably, but nevertheless they continue to exist. It is by a constant renewal of their protoplasm that they are thus able to secrete for a period of indefinite length. Destruction and recuperation, growth and decay, are thus constantly taking place at the same time and in the same gland.

Turning our attention now to the excretory channels, we find that the lobar and larger interlobular ducts have essentially the same structure. That is, they consist of a basement membrane lined with a double layer of large columnar cells, and surrounded by a varying amount of connective tissue. The nucleus is oval and sharply defined, and it is generally found in the middle of the cell. A longitudinal striation is often distinctly seen in these epithelia, giving them the appearance of being traversed by minute rodlets. Lateral anastomoses have been described between these rodlets by Klein. In fact, this author finds networks of various kinds in all the cellular constituents of glands, and even in most nuclei. But

his assertions in this respect are not confirmed by most recent authors, and certainly in fresh specimens such reticula are conspicuously absent. When they do occur it seems that they are but the anatomical expression of protoplasmic coagulation.

The interlobular ducts or salivary tubes (*Speichel-Röhren*) of Pflüger have only a single layer of columnar epithelia, the external portion of which (that nearest the basement membrane) is characterized by longitudinal fibrillæ, or rods. At about the middle of each cell there is a large round or oval nucleus.

Between the interlobular ducts of larger caliber and the alveoli there is found still another variety of excretory channels. These are the intermediate or intercalated ducts. They are lined with relatively long, spindle-shaped corpuscles (parotid gland), or small, cuboidal cells (submaxillary of different animals).

Quite recently Klein has also described "a distinct, narrow, short bit," found intermediate between the salivary tubes and the intercalated part. This he calls the neck, and points out the similarity of such an arrangement to the transition of the duct into the alveolus of the pyloric glands.

A structure of this kind is indeed often seen, but it is also frequently absent, so that we are not justified in regarding it as a constant anatomical feature. Finally, the presence of smooth muscle fibers in the main ducts is a fact which deserves to be mentioned.

From an examination of the blood-vessels and lymphatics we learn that a beautiful and dense capillary plexus surrounds the acini of the salivary glands. But the vascular walls are not in immediate contact with the membrana propria, being separated therefrom by lymph-spaces. When the latter contain much fluid, the distance between capillary wall and basement membrane will thus be materially greater than when only a small amount of liquid is present in these lymph-channels. The arteries and veins are devoid of peculiarities deserving of special mention.

In addition to the circumvascular lymphatics, just described, there are found channels around the ducts and acini. Both sets of vessels are connected, however, by abundant anastomoses. Valves are present in these lymph-vessels, and lateral pouches corresponding to them. This gives rise to a sacculated appearance, which is so characteristic of their course.

Medullated nerve-fibers are readily seen to enter the salivary glands at the hilus. They follow the course of the main duct, forming a plexus around its larger ramifications. From this reticulum, which is provided with collections of ganglia of varying

dimensions, secondary medullated fibrils arise, and are distributed between the smaller lobules. Ganglion cells, but of smaller size, are still found here. Non-medullated fibers are at length given off from the other nerves, and may be traced to the acini. But concerning their terminal distribution we have as yet no definite knowledge; only a number of more or less acceptable statements and theories.

Most conspicuous among these is Pflüger's, because couched in words of most positive assurance. Briefly stated, this author regards the secreting cells as the real nerve terminations. And he bases this conviction on what he claims to have actually seen, viz., the direct entrance of axis-cylinders into the glandular epithelia.

But, with a few exceptions, presently to be mentioned, all recent observers have failed to corroborate Pflüger's assertions. These exceptions are Patenko, who claims to have seen nerve-endings in the uterine glands; Kupffer, who, as already stated, saw similar terminations in the so-called salivary bodies of the cockroach; and Openchowski. The latter asserts that, in the glands of the nictitating lid of frogs, he has discovered unmistakable evidence of the direct entrance of nerve-fibrils into secreting epithelia. Such fibers, he says, are continuous with an intracellular reticulum. Finally Palladino, ten years ago, described somewhat similar appearances.

It does not seem desirable to enter more fully into the various details of pending controversies concerning the termination of nerves in the salivary glands. What has been briefly described is what we actually see, and not the imaginary pictures drawn by enthusiastic observers.

Intra-alveolar networks and capillary secreting ducts have been very minutely described by different authors. As regards the latter there can be no doubt that an albuminoid intercellular cement-substance, which may be displaced by any fluid injected with sufficient force into the main duct, has given rise to appearances simulating the existence of minute channels between the secreting cells. In the light of our present knowledge it may be definitely asserted that capillary excretory ducts, possessed of walls of their own, do not constitute real structural features of the salivary glands.

The same also applies to the reticulum which many have asserted to exist within the acini of all these glands. Protoplasmic coagulation, resulting from the different hardening processes and methods of preparation, must be held accountable for the net-like appearance referred to. In the living gland such a reticulum is not found.

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REPORT OF A CASE OF FETAL INTERSTITIAL
HEPATITIS AND PERITONITIS.*

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On January 9, 1882, a male infant was born in the New York Infant Asylum, of American parentage. The mother was a healthy woman, twenty-seven years of age, and had borne three other children. The labor was normal; the first stage four hours, the second twenty minutes, and respiration was established without difficulty. The weight of the infant was eight pounds eleven ounces; it was noticed to have an exceedingly enlarged and distended abdomen, and a measurement of the circumference at the umbilicus gave nineteen inches.

* Presented before the New York Obstetrical Society, May 16, 1882.

The child nursed well, and seemed in all respects healthy. The abdominal distension was noted and examined by the Medical Board, comprising Drs. J. Lewis Smith, H. D. Nicoll, W. N. Blakeman, E. L. Partridge, F. A. Burrall, and J. Foster, and a diversity of opinion was expressed as to its cause and pathological characteristics, some considering it due to renal, and others to hepatic cystic, degeneration.

In the mean while the child's abdomen began perceptibly to diminish and to become more flaccid, so that on January 31st its circumference was $1\frac{3}{4}$ in. less than at birth, and the infant's weight was less by six ounces. A careful weekly record of measurement and weight was kept by the House Physician, Dr. Kate Parker, after this date, and showed a slight increase in weight, without any very marked variation in the circumference of the abdomen. The following table will show this:

	February	7, weight,	8 lbs.	$3\frac{1}{2}$ ozs....	Circumference,	$17\frac{1}{4}$ inches.
	"	14,	" 9 "	12 "	"	$17\frac{1}{4}$ "
	"	21,	" 10 "	3 "	"	$17\frac{1}{4}$ "
	"	28,	" 10 "	$11\frac{1}{2}$ "	"	$17\frac{3}{4}$ "
March	6,	" 10 "	$14\frac{1}{2}$ "	"	18	"
"	13,	" 11 "	$5\frac{1}{2}$ "	"	18	"
"	20,	" 11 "	12 "	"	18	"
"	27,	" 12 "	2 "	"	18	"
April	3,	" 12 "	7 "	"	18	"
"	11,	" 12 "	$10\frac{1}{2}$ "	"	18	"
"	17,	" 12 "	12 "	"	18	"
"	24,	" 12 "	$15\frac{1}{2}$ "	"	$18\frac{1}{2}$	"
May	2,	" 13 "	$4\frac{1}{2}$ "	"	$17\frac{3}{4}$	"
"	9,	" 13 "	$1\frac{1}{2}$ "	"	$17\frac{3}{4}$	"

In March I first saw and examined the child. As it lay upon its back the deformity of the abdomen was most apparent; but the abdominal walls were so relaxed that they rolled, so to speak, down each side of the trunk, giving a somewhat flattened appearance. At the same time several lateral rugæ and lines were distinct. The lower border of the chest was exceedingly prominent, the ribs and sternum being raised from their normal relations, especially the latter, which was so elevated throughout its course as to amount to a deformity. On examining the abdomen more closely, the redundancy and relaxed condition of the walls was such that the impression was conveyed of a semi-emptied thick-walled sac. This rendered it somewhat easy to manipulate the viscera, and I readily defined the limits of the spleen and liver, as well as the position and size of the kidneys. The latter were so unquestionably normal in condition that I dismissed them from consideration as factors in the abdominal distension; and this was made so evident to Dr. Parker that my opinion was concurred in. The liver, however, was decidedly abnormal. Carefully marking it out, an evident discrepancy existed in the relative size of the two lobes, the right being considerably smaller than the left, and a small supernumerary lobe was detected below the latter. Below the lower anterior edge of the right lobe a mass of about the length of the hand was felt, apparently semi-solid or cystic, and evidently connected intimately with the liver, as a very careful manipulation seemed undoubtedly to demonstrate. The sensation to touch conveyed the impression that the mass had been larger, and the mobility of the mass was so intimate with that of the liver that it was evident its origin was from that organ.

I therefore gave my opinion that the case was one of undoubted foetal hepatic disease of apparent cystic nature, and that the abdominal distension and the distortion of the ribs were due to a much greater abdominal distension than existed at birth, such distension doubtless being chiefly due to effusion into the peritoneal cavity, the result of a peritonitis excited by, or concomitant with, the hepatic disease, and that the crowding of the liver, spleen, and heart accounted for the thoracic deformity. On May 10th the child died, after a brief gastro-intestinal disorder of thirty-six hours, and I made the autopsy six hours later, in the presence of Drs. Ewing and Parker. To be brief, the abdominal and thoracic organs were all healthy excepting the liver, the heart was found exactly in the median line, crowded up into the space made by the elevation of the sternum, which latter condition was undoubtedly greatly increased by an abnormally large thymus gland, measuring two and a half inches transversely, and two and a quarter longitudinally. A few ounces of ascitic fluid were found in the peritoneal cavity.

On exposing the liver, its convex surface appeared normal, excepting the right lobe, which, instead of being of more than half the size of the entire organ, was of only half the size of the left lobe. From the inferior border, and somewhat from the anterior surface of the organ, firm membranous attachments extend to the intestines, and from the anterior and lower surface of the right lobe a mass extends downward about sixteen centimetres long and eight wide, seemingly a sac containing fluid somewhat translucent, and of lighter color than the liver. In the center and at the lower surface of this apparent cyst is a nodular hard mass of about the size of a walnut, the adjacent covering tissue being drawn and packed together as though contraction had taken place.

The specimen is such an interesting one that I show it to the society before making any more minute examination. It is evidently a cystic degeneration of the liver, due to some inflammatory foetal change in that organ, and the firm adhesions to the intestines must be due to a foetal peritonitis, doubtless originating with the mass, giving rise also to extensive effusion, which had largely been absorbed before the birth of the child. That this effusion had been excessive is shown by the condition of the abdominal muscles, the displacement of the ribs and sternum, and the dislocation of the heart.

A careful examination of the liver tissue and fluid in the cyst will alone enable us to determine the character of the pathological condition, and in presenting it before the society without minute examination I do so with the expectation of its pathologist aiding me in solving the interesting features of the case.

The specimen being referred to Dr. Garrigues, the pathologist, the following report was made by him at the next meeting of the society :

“There is no trace of a gall-bladder, nor of the ducts leading from this organ and the liver to the duodenum. The latter having been cut open, a normal papilla is seen, but, while a probe passes easily into and throughout the duct, it is impossible to find any en-

trance into the liver. The tumor, which seemed to be a cyst, on being cut into, did not reveal any fluid. It is formed by a thin, dense, white membrane, inclosing a gelatinous, cherry-colored substance. The wall has no epithelium, and the jelly-like mass is composed of connective tissue full of small, round cells, and impregnated with a serous fluid, which exudes when the tissue is torn. On the inner wall is found a hard mass as large as a walnut, which in its periphery is composed of a reddish-yellow, putty-like, structureless substance, but the center is composed of a mass like that forming the main tumor. The right lobe of the liver is quite thin, and so hard that its tissue creaks under the knife, especially where it is contiguous to the cyst-like tumor. The tissue is similar in color to the above-mentioned putty-like mass, and this is the case with the tissue of the interior of the left lobe, excepting that it is soft. Examination of the tissue of the right lobe, hardened and stained, shows a very pronounced interstitial hepatitis, the space between the acini being occupied with œdematous connective tissue. Sections from the left lobe show the beginning of similar changes.

"It appears from the examination that we have a large tumor springing from the anterior surface of the right lobe, which seems to be the result of fœtal hepatitis and œdematous infiltration. I take the putty-like amorphous mass of the hard tumor in the wall of the main tumor to be changed liver tissue. It breaks much like the healthy liver tissue, and in its interior is found a cherry-colored, œdematous substance, similar to that in the main tumor.

"The numerous adhesions between liver and intestines are the result of peritonitis, and, since they are quite firm, they must have been due to an old peritonitis.

"Besides fugitive notices by German and French authors of cases of fœtal peritonitis, there is an exhaustive paper upon the subject in Sir J. Y. Simpson's "*Obstetrical Works*," vol. ii, pp. 150-197, Philadelphia edition, 1856. He himself observed nine cases, and notes more than a dozen from different sources. He says that of all the various morbid actions liable to occur in the fœtus, inflammation of the peritonæum, with the various pathological changes it produces, seems to be one of the most important, both as to its frequency and the effects to which it gives rise. He says, further, that it probably constitutes the most frequent cause of the death of the fœtus during the latter months of pregnancy.

"As causes, he has found excessive labor, exposure of the mother to wet and cold, injuries, syphilis, gonorrhœa, and general ill health during pregnancy, but sometimes the mother had enjoyed perfect health. That it may originate in the fœtus itself is shown by one

of his cases, in which, of twins, one was perfectly healthy, while the other had peritonitis, although the two had only one common placenta. Fœtal peritonitis has been found due to strangulation of the intestines and to rupture of the bladder. In one case it was accompanied by hepatitis in the stage of softening and incipient purulent infiltration; in another the morbid changes in the liver were of a more chronic character, the peritoneal covering being opaque and somewhat thickened, and the organ itself reduced in size.

“In a considerable number of cases the children died shortly before birth, and some had been dead a long time. In one case mentioned by Simpson the fœtus was alive up to the beginning of labor, some lived a few hours or days after birth, and one survived altogether, apparently recovering.

“In many cases the mother noticed uncommonly active fœtal movements for two days preceding their total arrest. In the above-described case, the irritation caused by the tumor and the inflammation in the interior of the liver account sufficiently for the chronic peritonitis in the neighborhood.”

In connection with the case here reported, it should be mentioned that the mother stated that she received a severe blow in the abdomen during the fourth month of pregnancy.

CASE OF DISSECTING METRITIS.*

By HENRY J. GARRIGUES, M. D.

K. G., aged twenty, single, born in Hungary, domestic, primipara, was delivered in my service at the Maternity Hospital, April 22, 1882. The labor was rather tedious, but otherwise normal. The third stage was completed in fifteen minutes. The placenta and membranes came away intact. The uterus contracted well. There was no hæmorrhage or other disturbance the first day. The next evening the abdomen became painful. The uterus continued during the first five days to reach up to the umbilicus, although it was washed out with two-per-cent. carbolized water on the fifth day, and the patient had been given ergot and quinia all the time, and the abdomen had been painted with tincture of iodine and nitrate of silver.

On the sixth day I examined her with the speculum, and found diphtheritic ulcers on the vulva, in the vagina, and on the mucous membrane of the cervix. I touched all the ulcers with a fifty-per-cent. solution of chloride of zinc, washed out the uterus with two-per-cent. carbolized water, injected half a drachm of an eight-per-cent. solution of chloride of zinc through an elastic catheter reaching up to the fundus, and washed it out again. At the same time the patient had a very offensive diarrhœa, a greenish fluid constantly dribbling away from her in her

* Read before the New York Obstetrical Society, October 17, 1882.

half-delirious condition, for which carbolic acid was ordered, π ij, t. i. d. The wounds were sometimes covered with ten-per-cent. carbolized oil, at other times powdered with iodoform. Two days later (April 30th) the ulcers spread, and the cauterization was repeated. Three days later (May 2d) the ulcers began to take on a good appearance, and her general condition improved much. Eight days later (10th of May) she was transferred to the convalescent ward. The uterus still reached to the umbilicus, but all tenderness had disappeared. The diphtheritic ulcers were healed, and when the uterus was washed out the water came out quite clean.

I possess very full notes of the case, for which I am indebted to Drs. Charles Allen and Everett Jewett, who carried out the details of the treatment; but I limit myself to the more important points. Thus, on May 15th, she had reached a fair state of convalescence: pulse 92, respiration 22, temperature 98.5° F., tongue slightly furred, normal movement from the bowels. The fundus had descended one inch and three quarters. She went on improving, and was even allowed to sit up (May 17th). Four days later she complained of pains in the hypogastric region, which continued during the following days. She continued very weak, and had an occasional rise in temperature and return of diarrhœa. On May 24th the tongue was dry, the cheeks were flushed, and the temperature rose to 102° . The uterus had again risen during the last two days, and was felt one inch and a quarter above the umbilicus. A repetition of the intra-uterine injections was therefore ordered. When the double-barreled catheter was introduced, a thick purulent fluid dropped freely from both openings of the catheter. When the connection was made with the irrigator it was noticed that the water did not return very freely. The tube was taken off, the catheter was moved gently, and the water flowed out through both openings, thick and coffee-colored. This was repeated three times, the woman complaining a great deal each time; and when it was removed the third time, and the catheter was withdrawn, she began to look badly and breathe heavily. Presently she fell into a condition of collapse, and, in spite of hypodermic injections of brandy and digitalis, soon died without uttering a word or a cry.

Autopsy.—The lungs showed slight bronchitis, hyperæmia, and œdema. Heart normal. Liver normal in size. There were a few thickenings of the capsule, and some fatty spots. Kidneys, slight parenchymatous changes.

Upon opening the abdomen, the viscera below the umbilicus were found matted together by recent adhesions. The uterus rose nearly to the umbilicus. On the anterior aspect, near the fundus, was found a rent about two inches and a half long, with thin, somewhat jagged edges. Upon putting the finger into the cavity of the uterus, an elastic body was felt lying loose in the cavity of the body of the uterus, projecting into the canal of the cervix. This body was about four inches long, two wide, and one thick. In several places in its interior were seen canals, and, in the specimen I exhibit to the society, one of these still containing a thrombus is visible. I have prepared microscopical sections of this body, of which one is under the microscope for your inspection. You will easily convince yourselves that it is composed of the muscular tissue of the uterus in an inflamed condition, the muscle fibers being interspersed with accumulations of small round cells.

At the posterior aspect of the uterus there was a smaller rupture, which opened into Douglas's pouch. In the fundus there were two small openings leading into two loops of the small intestines, pressure upon which forced fœcal

matter into the uterine cavity. Besides these two loops, many others were adherent to the body of the uterus.

The bladder showed slight injection, and a purulent liquid was scraped from its walls.

Neither the vagina nor the uterus showed any ulcers, but the wall of the latter was in some places no thicker than a sheet of blotting-paper. The peritoneal covering was coated with recent exudations.

The immediate cause of death in this case was, no doubt, the intra-uterine injection, which distended the uterine wall; but, as a double-barreled catheter was used, and as, besides, the cervical canal was not contracted, the rupture of the uterus was primarily due to the extensive loss of tissue sustained by the uterine wall, and the closure of the cervical canal by the detached piece of the uterus, which, lying loose in its cavity, worked as a ball-valve. How exceedingly thin the uterus was in some places is best proved by the strange occurrence of two simultaneous traumatic ruptures, one on the anterior, the other on the posterior wall of the organ. That it was so thin can not surprise us when we think of the large piece of uterine tissue found loose in the cavity of the body of the uterus. As this body was declared by the curator who made the autopsy to be coagulated fibrin, I have exhibited one of my specimens in the New York Pathological Society, where it was examined by several of the most experienced microscopists of the city, who unanimously declared that there was not the least doubt about the correctness of my view that it was inflamed muscular tissue of the smooth variety.

I think we have here to do with a modification of metritis which deserves the name of *dissecting metritis*. Virchow * mentions that diffuse metritis preferably extends in the outermost layers near the peritoneal covering. Here abscesses are formed. When now we remember that the case began as one with deep diphtheritic ulcers in the visible parts of the genital tract, and a foul discharge from the interior of the womb, we can imagine that similar ulcers were found in the body of the uterus, which may have circumscribed, more or less completely, the piece which was subsequently thrown off in consequence of a deep-seated purulent metritis near the peritonæum.

Two similar cases have been reported by the Russian physician Süromiatnikow,† and there is scarcely any doubt that the case reported to this society ‡ as a monstrosity, "probably composed of the

* Klob, "Pathologische Anatomie der weiblichen Sexualorgane," Wien, 1864, p. 247.

† "Centralblatt für Gynäkologie," vol. v, p. 276, 1881.

‡ "New York Medical Journal," vol. xxxv, No. 5, p. 522.

human heart," belongs to the same category. At least Dr. Kucher, to whom the specimen belongs, declared in the meeting of the Society of German Physicians, held June 23d last, that he had examined a great number of sections taken from it, and that they all were composed of smooth muscle fibers, and in every respect like mine.

I am surprised to see how slightly Spiegelberg* speaks of diphtheritic endometritis. According to him, the diphtheritic patch is nothing but a so-called pyogenic membrane, formed by the condensation of inflammatory products on the surface of ulcerations. Others have come to very different conclusions. Dr. Lusk† communicates the results of Dr. Steurer's special investigation in this direction, made under the guidance of Professor von Recklinghausen. Steurer found, in all patients who succumbed during an epidemic of so-called puerperal fever in Strasburg, diphtheritic patches about the vulva, or upon the mucous membrane of the vagina and uterus. These patches were always associated with a loss of substance, and were composed of disintegrated fibrin, white and red blood corpuscles, and colonies of *round bacteria* in great abundance. From the patches the bacteria could be traced between the molecular fibers, and deep down into the canalicular spaces of the connective tissue, where their presence gave rise to cellulitis. From the canalicular spaces they entered the lymphatics, with resulting lymphangitis. . . . By perforation of the walls of the lymphatics which directly underlie the peritonæum they made their way into the peritoneal cavity, and excited pyæmic peritonitis. . . . The wide stomata upon the abdominal surface of the diaphragm allowed the facile entrance of the organisms into its lymphatics. From the lymphatics the bacteria enter the blood, and are deposited in various parts of the body. Steurer found almost invariably the glomeruli and arteriolæ of the kidneys filled with micrococci (round bacteria). Professor Hjalmar Heiberg,‡ of Christiania, has likewise found masses of zooglœa not only on the surface of diphtheritic ulcers in the uterus, but extending into the adjacent tissue.

Our case exemplifies the vast destruction which may result from diphtheritic ulceration of the genitals, and warns the physician not to lose any time in instituting a most energetic treatment. I have in vain tried iodoform and carbolic acid, but have found that chloride of zinc works admirably. Even this fatal case shows to some extent the efficacy of the treatment, all the ulcerations having healed. Had she not been accidentally killed she might, perhaps,

* "Lehrbuch d. Geburtshülfe," Lahr, 1878, p. 725.

† "Science and Art of Midwifery," New York, 1882, pp. 617 and 631.

‡ "Die puerperalen und pyämischen Processe," Leipsic, 1873.

even have recovered as did the three other above-mentioned patients. On the subsidence of the metritis, uterine contraction might have expelled the foreign body, and the two fistulæ leading into the intestine might have closed spontaneously. Besides the cauterization and carbolized washings, when there is any rise of temperature, I give carbolic acid internally, about one minim every hour.

NOTE.—Since the foregoing paper was read before the Obstetrical Society, I have had the opportunity to see the beginning of the process in another case, which explains how such large and thick portions of muscular tissue can be thrown off. In that case, there was not the least affection of the vagina to lead us to a diagnosis. The uterus had been washed out with carbolized water, but no chloride of zinc had been used. At the autopsy we found the anterior wall of the uterus, where the placenta had been attached, two inches thick, and the whole organ measured nine inches by five. Around the opening of each Fallopian tube was found a diphtheritic patch of about the size of a three-cent piece, and from this point the diphtheritic matter could be followed far away into the deeper parts of the muscular tissue.

Editorials.

BRITISH AND AMERICAN OVARIOTOMY.

DOUBTLESS it is well known to most of our readers that ovariectomy is far from being so successful an operation in this country as it is in Great Britain. The case seems to be the same with regard to laparotomy in general. The fact has been more and more brought home of late to our leading gynecologists, and, in particular, was a prominent subject of informal talk at the gathering lately held in Boston to take part in the annual meeting of the American Gynecological Society. Its realization seemed general on that occasion; the only discussion was as to its possible causes. In that discussion nothing was brought forward on any more solid ground than that of plausibility, and we must say that even that foundation was lacking in the case of almost every suggestion made.

Climatic influence was broached, of course; it always is whenever a question of this sort comes up. This is not unnatural, and is by no means to be deprecated. In such inquiries, however, care should be taken not to clutch hastily at this threadbare cloak for ignorance. Mr. Knowsley Thornton, of London, who was present at the meeting, expressed himself as specially desirous of ascertaining whatever impressions the members might have formed as to the effect of the American climate upon the results of laparotomy. He seems to have got no more tangible answer than Dr. Gilman Kimball's hint to the effect that patients in the course of preparation

for the operation in this country were not usually in so favorable a state as regarded their cutaneous functions as he had observed in like patients in Great Britain. Dr. Kimball then took occasion to express himself most forcibly and convincingly against the possibility (a possibility, by the way, that had not been mentioned, and probably not even thought of) that any lack of skill on the part of American ovariologists was at all answerable for the state of things under consideration. That dexterity, precision, and celerity, coupled with readiness in emergencies, are strong points with American surgeons, has never been seriously questioned; there can be no doubt that Dr. Kimball's high estimate of our ovariologists' operative skill is a just one. The supposition can not be entertained, therefore, that British women recover from ovariectomy in greater relative numbers than our own women on account of any greater technical skill on the part of British operators.

To come back to the matter of climatic influence—Dr. Kimball's observation in regard to the action of the skin was, as we have said, the only specific suggestion put forth; and, we may add, it was very much to the point. But suppose that, instead of climatic, we say meteorological. It is well known that, in New York at least, there is a period of several weeks in midwinter when women are specially prone to pelvic inflammatory affections. This is often strikingly shown in the marked prevalence of puerperal fever during that period, as well as in the temporary aggravation of chronic pelvic inflammations apart from child-bearing. It would be interesting to ascertain if our mortality after ovariectomy is not greater then than during the same length of time at other portions of the year. Should it turn out that such is the case, it would become a question whether the operation had not better be avoided during that term, so far as practicable, as it is now avoided in summer.

Another conjecture that found expression on the occasion to which we are alluding was, that British women, having a less highly sensitive nervous system than their American sisters, and being more stolid, as it was somewhat ungallantly phrased, were better fitted to cope with the shock of such a serious operation. To this, complimentary as it is to the mental make-up of our countrywomen, two objections occur to us: 1. We know of no evidence that other grave operations are better borne by the British than by the Americans. 2. Foreign observers—notably Dr. Brown-Séquard—have been struck with the capability of Americans to survive great losses of blood. The theory that mental culture necessarily implies physical degeneracy is, in our opinion, utterly groundless. But, setting these considerations aside, it should not be forgotten that

a very large proportion of the women who undergo ovariectomy in this country, especially in the great Eastern cities, are of foreign birth.

Another element in the question seems to us worthy of some attention. It appears not unlikely that in Great Britain, a compact country, women with ovarian tumors of whatever sort are likely to betake themselves to the experienced metropolitan ovariectomists, since the latter are easy of access; whereas in this country, owing to its vast territorial extent, many of the simpler and more promising cases fall into the hands of surgeons who, although ready at any time to undertake an ordinary ovariectomy, and perfectly competent to do it well, yet shrink from performing the operation on patients in whom specially unfavorable conditions are recognized, and send them to the large towns. It may be, then, that on this account our better-known ovariectomists, from whose experience our statistics are mainly made up, get an undue proportion of unpromising cases, while British operators of the same class, having a larger relative number of ordinary cases to deal with, are able to make a better showing.

It would be useless to enter upon any comparison of different methods in the operation—the use of Listerism in its various degrees, or its omission; the adoption or rejection of drainage; the employment of this, that, or the other way of dealing with the stump—for among the British operators whose results challenge our admiration, as well as among our own less fortunate ovariectomists, all these peculiarities are to be found in use. They seem, indeed, to stand in no constant relation with the results attained.

Whatever may turn out to be the real solution of the question, it is well that it has so thoroughly engaged the attention of our leading gynecologists, and we think there is ample ground for hope that it will be cleared up within a reasonable period.

Reviews and Literary Notes.

A Treatise on the Science and Practice of Medicine; or, the Pathology and Therapeutics of Internal Diseases. By ALONZO B. PALMER, M. D., LL. D., Professor of Pathology and Practice of Medicine, etc., in the University of Michigan, etc. Two volumes. New York: G. P. Putnam's Sons, 1882. Pp. xiii-903; vii-866. [Prices, each volume, \$5, \$6.]

By what process of reasoning the author of these volumes convinced himself that it was his duty to write them is a subject of inquiry from which

those interested in psychological subtleties might with a little trouble obtain both instruction and amusement. It is true Dr. Palmer gives us in the preface certain reasons which he tells us (and we have no cause to doubt the assertion) were influential in determining him to plunge into the labors of authorship and compilation; but, as these would be regarded by most persons as wholly inadequate, we are still permitted to wonder why the work before us was sent into the world. "Life, liberty, and the pursuit of happiness" are asserted in the immortal Declaration of Independence to be inalienable rights of humanity. There is another, only inferentially alluded to—and that is the right of every free-born American citizen to make a book on any subject he pleases. Possibly it was mainly in the assertion of that right that we have had inflicted upon us two ponderous volumes on the practice of medicine, which, so far as we can perceive from a very thorough examination, do not enunciate a single original idea, and do not contain a tithe of the ideas of other writers which they should contain in order to be regarded as useful agents in the conveyance of medical knowledge.

Perhaps one of the surest ways of arriving at an idea of the clearness and fullness of a writer's mind is to study the definitions he gives of the various conditions or subjects he endeavors to describe. A definition should contain the essential points of the thing defined, and nothing else. The words used should apply to it, and to no other thing. If these rules be disregarded, it is very evident that exactness is not attained, and the seeker after knowledge gets vague generalities when he should receive exact information. Let us apply this test in a few instances to Dr. Palmer.

"Hæmorrhage," he tells us, "is a flow of blood out of its vessels, whether arteries, veins, or capillaries, or whether from the surface into cavities or into tissues."

According to this definition, the flow of blood from a severed carotid artery is not a hæmorrhage, and a nose-bleeding is not one either, unless the blood runs down into the stomach. The idea that a hæmorrhage must take place into a cavity or a tissue is so original that we fear we shall be obliged to reconsider the opinion we expressed in the first paragraph of this notice.

"Shock is a depressing impression, usually violent in its course or sudden in its occurrence."

Now, we request the reader to read this definition over again, and to ask himself whether, if he had no knowledge whatever of shock, he could form any idea of it from these words of Dr. Palmer. "A depressing impression!" Why, the pressure of a thumb on any part of the body is "a depressing impression"; the effect produced by telling a child that its rag baby is stuffed with sawdust is "a depressing impression." We have "depressing impressions," physical and mental, "sudden" and "violent," every day of our lives, but they are not shocks in a medical or surgical sense.

"Syncope is a sudden failure of the heart's action." Syncope, we beg

leave to assure Dr. Palmer and the young students who may consult his book, is nothing of the kind. It is the *result* of diminished cardiac action. It might with equal propriety be said that compression of the brain was a fracture of the skull.

The following sentence, supposed to be descriptive of some of the phenomena of syncope, we confess to an utter inability to comprehend: "Sometimes, when complete consciousness is lost, and often when the patient is passing into this state, rigidity, or occasionally more decided spasms occur."

Another matter with which we have to find fault with Dr. Palmer is his frequently manifested disposition to hurl invectives at those who indulge in certain habits which are probably disagreeable to him personally, but which many of the most refined and intellectual men the world has ever known have practiced with delight and benefit. In doing this he makes statements which he not only does not attempt to prove, but which no one else has ever tried to establish. For instance, he says:

"The exceedingly foul breath so often produced by free smoking admits of only one remedy—abandonment of the pernicious habit. Other odors may, if strong enough, partially cover it, but it arises from destruction and putrefaction of organic matter, mostly of the blood mingled with the odors of the tobacco."

We should like to know Dr. Palmer's authority for this statement. We fancy he would find it a difficult search were he to undertake to establish it by the evidence of experiment, or even by the assertion of any one more scientific than King James I, of England.

Of course, we can not, in the limited space of this journal at our command, dwell to any considerable extent upon the descriptions of diseases given by Dr. Palmer, or on the views of their nature and treatment which he inculcates. We are, however, warranted in saying that there are very few subjects considered by him in which he does not show that he has failed to keep up with the progress of medical science. A few examples will show what we mean by this statement.

Speaking of erysipelas, he says: "It not unfrequently occurs 'spontaneously or idiopathically'—that is, without a wound or abraded surface, or previous disease of the patient." This is in opposition to what we know of this disease: that it never occurs unless there is a wound or abraded surface. Nothing is said of the modern ideas of its pathology, nothing of its inoculability, nothing of Orth's experiments. Indeed, the only author quoted is Hebra—and he only on a single point—whose observations were published twenty-two years ago. Dr. Palmer is clearly not aware of the fact that the uninjured skin is absolutely impervious to the poison of erysipelas.

Dilatation of the stomach is considered in a few lines in conjunction with gastric obstruction, and no mention is made of the *sarcinæ ventriculi*, which growths are almost pathognomonic of the affection.

In the account of pulmonary tuberculosis, no mention is made of Koch's experiments and researches.

Exophthalmic goitre is treated of as a disease of the heart!

In the consideration of the subject of cerebral hæmorrhage, no attempt is made to diagnosticate the seat of the lesion, the lenticular nucleus is spoken of as distinct from the corpus striatum, and the internal capsule, which plays so important a part in the morbid anatomy, is not mentioned in the whole course of the article. The whole subject of the pathological anatomy is discussed in thirty-two lines, and the remarks made are utterly devoid of significance.

The chapters upon "cerebro-spinal sclerosis" and "bulbar sclerosis" are meager, unsatisfactory, and misleading. Certainly the author has no clear idea of these conditions.

The like criticism may justly be applied to the sections on every disease of the spinal cord which Dr. Palmer has thought it worth his while to consider. We do not know where more superficial and erroneous descriptions of spinal affections can be found than in the work before us. Dr. Palmer appears to be in profound ignorance of the contributions of French and German neurologists, except occasionally as he gets some of them from abstracts in medical journals. He appears to have read hastily certain English and American authors, and to have combined their observations indiscriminately into a sort of hodge-podge of the most incongruous character. For instance, let us take one disease—pseudo-hypertrophic paralysis (and it is a fair example). Less than two pages is devoted to its consideration. He starts out with the incorrect assertion that "This is a form of disease hitherto observed in children only," and this is followed by the statement that it is thought that at an early period of the change an œdematous state of the muscles contributes to swell their bulk." Who thinks this, we are not informed, and the information has probably been privately confided to Dr. Palmer. Then there is not a word in regard to the diagnosis. The disease is stated to be an affection of the muscles, without the reader being informed of the difference of opinion existing on this point. And then the extraordinary statement is made that "no lesions have as yet been discovered in the nerve-centers or the nerves."

Indeed, we may say with truth that the whole division of the book devoted to the consideration of diseases of the nervous system is unworthy of Dr. Palmer's reputation and position as a teacher.

Taken as a whole, we can not, consistently with our views of what a work on the practice of medicine should be, recommend the treatise before us, either to undergraduates or to physicians. The former it will certainly mislead; the latter will find but little that they can apply in their own practice. Considering that Dr. Palmer has been for many years a physician and a teacher, and that, consequently, he must have acquired experience both as a practitioner and as an instructor, we had a right to expect that his knowledge would be communicated in what he doubtless regards as

the crowning work of his life. So far from this expectation being realized, we find, on the contrary, little or nothing from Dr. Palmer, but a great deal of crude and elementary material badly arranged, and commented upon with indecision and incompleteness. Probably it will sell—such books generally do; but that the science of medicine will be advanced by its publication no one who wades through it, as we have done, can for a moment believe. And we may add that, if medical students are satisfied to enter upon the practice of their profession with such scanty and erroneous information as they can pick up from books like this, it is no wonder that post-graduate schools and polyclinics are necessary in after-years to teach them the real science and art of medicine.

Manual of Gynæcology. By D. BERRY HART, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc., and A. H. BARBOUR, M. A., B. Sc., M. B., Assistant to the Professor of Midwifery, University of Edinburgh, etc. With nine lithographs and four hundred woodcuts. Edinburgh: Maclachlan & Stewart; London: Simpkin, Marshall & Co., 1882. Pp. xxvii-644.

It seldom falls to our lot to notice a text-book that seems to us to deserve so much praise and so little criticism as this one. We have had occasion before to commend Dr. Hart's writings, and the work now under consideration, written in conjunction with Mr. Barbour, is quite as meritorious—perhaps more so, regard being had to the fact that to produce an acceptable text-book is a much more difficult matter than to make a fragmentary contribution, however valuable, to our advance in knowledge. The former taxes a higher faculty than that of observation or that of deduction; it calls for judgment. Taking this duly into consideration, we have little else than praise for our authors. They have given us a text-book of gynæcology which, in our opinion, is unexcelled; it is replete with evidence of abundant knowledge, ingenuity in practical application, and rare discrimination in generalizing, and its faults are few and for the most part trivial.

The book is divided into two parts. Part I, consisting of one hundred and forty-three pages, is devoted to those matters which the student ought to master before turning his attention to the particular diseases of which the remainder of the work treats—the anatomy and physiology of the parts concerned, and the generalities of physical exploration. It is especially with the matter of anatomy that Dr. Hart's previous writings have dealt, and the section on anatomy in this book is in the main a summary of those writings. With their essential points we have already acquainted our readers; we shall therefore refer to only a few details at the present time. Of the labia minora the authors say very truly: "Posteriorly they blend insensibly with the labium majus at about its middle"; but the drawing given of the vulva (Fig. 1) shows no such blending. The vulvar slit is said to be vertical, which is not the case when the subject stands erect. "The

labia minora," it is stated, "are skin, thin and fine, and not mucous membrane, as often alleged." In a drawing (Fig. 45) designed to show a lateral sagittal section at the junction of the uterus with one of the broad ligaments, the bony structures seem to have been cut in the median line. In regard to the normal attitude of the uterus the authors say: "There can be no doubt that the uterus lies normally to the front, with its anterior surface resting on the bladder. Great refinement is exercised, quite unnecessarily, by many gynæcologists in settling what they believe to be the exact angle which the long axis of the uterus should make with the horizon when a woman is in the erect posture; and this refinement has been greatly stimulated by the mechanical treatment of what is known by many as anteversion of the uterus." The authors think, in opposition to many writers, that when the bladder is empty, and the uterus is inclined forward, small intestines enter Douglas's pouch.

The blood-vessels, lymphatics, and nerves of the pelvis are described with unusual fullness, and are well illustrated by drawings from Hyrtl and Luschka. A chapter on the physics of the abdomen and the pelvis, with special reference to the semi-prone and genupectoral postures, is in the main a *résumé* of Dr. Hart's previous publications on these subjects. It displays great originality, and is worthy of the closest study. In a short chapter on the physiology of menstruation we find the authors disposed to agree with Kundrat and Engelmann that only the superficial layer of the uterine mucous membrane is shed at the menstrual periods.

The chapter on physical examination is exceedingly well worked up, and we are glad to notice that the authors attach great importance to examination by the rectum, both alone and in conjunction with vaginal and abdominal exploration. We regret, however, that they keep up the error of using the word bimanual as if it were sufficiently descriptive of abdomino-vaginal palpation and other like methods of exploring the pelvic contents by two or more avenues of approach simultaneously—the plain truth being that the time-honored manipulation by which fluctuation is elicited is a bimanual examination. An admirable lithographic drawing is given of a cadaver in the left lateral semi-prone posture—by all odds the best representation of that posture that we have ever seen. It seems an error to state, as is done on page 111, that a leverage is obtained on *separating* the handles of Barnes's crescent speculum. We can not refrain from quoting the following conclusions as to the uses and the comparative value of various specula: "The Sims is undoubtedly the best and most scientific speculum we possess. When properly used, and aided by the volsella, it leaves nothing to be desired. For operative cases its use is imperative; and it is the only speculum which does not distort the split cervix. It is objected by some—on insufficient grounds—that it is difficult to manipulate, requires a skilled assistant, and exposes the patient unduly. The Fergusson is easily passed, involves only slight exposure, and is good in very minor gynæcology. It gives only a limited view of the vaginal walls. The

student should note that it brings the flaps of a split cervix together and somewhat conceals the lesion. The Neugebauer, on the other hand, opens up the cervical split, and may do this so effectually as to give the impression that there is none." We are unable to see what reason there is for classing Fergusson's speculum as self-retaining.

The section on anæsthetics seems rather uncalled for, comprising as it does the same sort of teaching that is to be found in any good work on general surgery.

The authors wisely begin the second part of the work, treating of the special diseases, with a chapter on pelvic peritonitis and pelvic cellulitis, for before all else the student should be made acquainted with these affections, since they certainly form the essential feature in full nine tenths of the cases of disease peculiar to women, and yet are seldom recognized by the general practitioner. The following "preliminary considerations" seem to us so excellent that we quote them entire: "The subjects of pelvic peritonitis and pelvic cellulitis are by no means thoroughly worked out. The literature is extensive, but not so valuable as medical literature often is. This arises from various causes, among which the most important is the change in the theories as to the anatomical site of pelvic inflammatory conditions. Nonat and Simpson contended that pelvic peritonitis and pelvic cellulitis were distinct affections, and considered the latter as being of frequent occurrence. Then Bernutz and Goupil turned the tide for some time by their able work, where they classed almost all pelvic inflammatory affections as peritonitic. They, however, greatly underrated the amount of connective tissue surrounding the cervix, just as Guérin has more recently written in the same strain as to the connective tissue of the broad ligaments; and Le Bec, too, has endeavored to support the opinions of the latter by his observations on the lymphatic distribution of the broad ligament. There is now little doubt that Bernutz and Goupil pushed their views too far; so that in America, Germany, and Britain gynæcologists now consider pelvic inflammation as either peritonitic or cellutitic. Clinical, anatomical, and pathological facts are each day putting this view on a firmer basis. The fact, however, that these diseases are not rapidly fatal, and that generally we get post-mortems only of advanced or resolved cases, along with the admitted difficulty of exact clinical differentiation, renders our knowledge at present much less complete and exact than could be wished. Finally, we must note that both diseases are always combined. Thus, in a marked pelvic peritonitis there is always some pelvic cellulitis, and in a marked pelvic cellulitis always some pelvic peritonitis. This is quite analogous to what is found in pleurisy and pneumonia."

The authors state that they have seen some cases that seem to bear out Dr. Noeggerath's views as to the part played by "latent gonorrhœa" in the etiology of pelvic peritonitis. Regarding the frequency of the chronic form, they remark that it often remains as a sequel to the acute form, but may develop slowly of itself. We should say, rather, that in the vast ma-

majority of cases it arose in the latter way. It is indeed the insidious mode of onset of this affection that so often blinds the physician to its existence. Except when they cause trouble by pressure, encysted serous collections occurring in the course of the disease should, the authors think, be left to be absorbed, and, when adhesions are extensive, "the case is better left alone." The first of these precepts seems to us unquestionably sound; the second might have been put in a form somewhat less absolute—it is not all treatment that is contra-indicated in such cases, but only harsh manipulation.

The authors do not exaggerate the frequency of pelvic inflammation when they remark that "it is the rare exception to examine a female pelvis without finding some traces of a previous cellulitis or peritonitis." In regard to cellulitis, they do not believe that mere traumatism, "apart from septicity and tension," can cause an inflammatory attack.

In the short but excellent chapter on hæmatocele, the authors criticise the common statement that the effused blood naturally gravitates into Douglas's pouch, maintaining that it lies there only because it has been effused near by, and does not make the pouch bulge downward, unless it has been poured out below adhesions that hem it in above. They pointedly add: "Blood has a specific gravity of 1.055, and remains where it has been effused; yet effused blood is often spoken of as if it were lead, sinking down whenever it got out of the blood-vessels." Whatever its specific gravity may be, effused blood does sink, as can readily be seen by watching the course of a subcutaneous extravasation.

It is stated that catarrhal salpingitis can not be diagnosticated during life. This we consider erroneous, at least as concerns cases in which the tube is distended.

The following conclusions in regard to oöphorectomy seem to us very judicious: "This operation is as yet on its trial. Gynæcologists have not yet settled the exact indications for it, nor the question as to whether it is always worth the risk. The mortality is high; . . . part of this is, of course, due to the worn-out state of many of the cases [patients] operated on, and to the extensive adhesions present. Probably the mortality will diminish, although it must be kept in mind that operators have had the benefit of the previous advice and experience of ovariologists as to its results. We have already seen that its most brilliant successes have been got in fibroids; its success in other cases has been moderate. When many adhesions exist, it is probably better not to attempt it. Some interesting physiological points have been brought out by it: removal of the ovaries does not bring on the menopause, sexual appetite is not diminished, and no womanly attributes are in any way removed. The outcry that it unsexes a woman is absurd. The ovaries removed were probably useless for procreation; and, when their presence is causing *serious* bodily illness, they are better removed."

Passing to the chapter on affections of the uterus, under the head of

amputation of the cervix, we find the ingenious hint to use a rubber umbrella-ring as a cervical tourniquet. We quote the following considerations in regard to the results of cervical lacerations: "Lacerations of the cervix in themselves produce no symptoms. Hæmorrhage may arise at the time of production, but is not a symptom of the persistence of the laceration." "Other pathological conditions arise secondarily as the result of the laceration, of which the most important is cervical catarrh; cicatricial tissue in the cleft may produce reflex nervous symptoms." "Pathological conditions are frequently present along with the laceration, as cellulitis and subinvolution. These have each their own train of symptoms. We are not yet in a position to say how these are related to lacerations."

The authors consider subinvolution of the uterus to be a form of chronic metritis. The term subinvolution, they remark, is etiological, and simply expresses one mode in which chronic metritis is produced; adding that, apart from the history, it is impossible to diagnosticate between subinvolution and enlargement from chronic inflammation.

To those who still cling to the stenosis theory of dysmenorrhœa we commend the following: "The flushing of any diseased tissue with blood causes an aggravation of pain, which is increased if the tissue be of a dense structure. The cause of the intense pain in periostitis as the affected limb becomes warm in bed is thus explained. Now, the tissues of the uterus are frequently in a state of chronic inflammation, and there is sometimes increase of connective tissue, making it of a less yielding structure; this occurs in retroflexion complicated with subinvolution. The monthly flushing of the pelvis with blood would, under these circumstances, be accompanied with pain. We must also remember that cellulitis and peritonitis are often present with anteversion; and increase of pelvic congestion will, of course, produce increase of pain."

The treatment of anteversion by vaginal pessaries is properly characterized as unscientific, and equally true is the statement, as regards anteversion, that "the fundus" (meaning the *body*) can not be immediately supported through the anterior vaginal wall. The authors think it improbable that mere anteversion causes any distress, being "not a lesion" in itself, but only one of the physical signs of metritis, chronic pelvic peritonitis, or pregnancy. They add: "The ordinary statement that the uterus, when anteverted, presses on the bladder, is open to the fatal criticism that the uterus always presses on the bladder; while, so far as mere weight is concerned, there are, in the majority of cases, no special symptoms referable to the anteversion of early pregnancy. Any enthusiastic believer in anteversion pessaries is bound to insert them in all cases of early pregnancy." We agree with the authors entirely in these matters, also in their statement that Hodge's pessary does not act as a lever, but by dragging the cervix backward.

Passing over a good deal of intervening matter, we come to the chapter on affections of the vulva and of the pelvic floor. Among the operations

for laceration of the perinæum we notice a method, credited to Professor A. R. Simpson, which strikes us as very rational and ingenious. We do not remember to have seen it described in any other text-book, but it seems to us to bear a close resemblance to a method that Dr. Pallen demonstrated at a meeting of the New York Obstetrical Society a few months ago (see the November number of this journal, p. 523).

In a short section on abortion, it is stated quite confidently that the hæmorrhage of threatened abortion can be checked with ergot (ten minims of the fluid extract every few hours) without the uterus being provoked into expelling the ovum.

We are astonished that the authors mention nothing but operative treatment for coccygodynia. That affection is generally nothing more than a symptom, and the operation of removing the coccyx commonly fails to do away with it.

Had the authors written a commonplace book, we should not have thought it worth while to devote so much space to its consideration. The truth is, their work is exceptionally clever, and we should be glad to see it in the hands of every practitioner who undertakes gynæcological work. We think it exemplifies a tendency to return to the inflammatory theory of pelvic pathology in a measure—a tendency that has cropped out in more than one quarter of late. To our mind, that doctrine is a far safer guide than the mechanical theory.

The work is handsomely printed and well illustrated. It contains, however, more faults of expression and misspellings of proper names than are usually found even in a first edition. As examples of the former, we would call attention to “pubis” for *pubes* (*passim*), “diagnosable” (p. 39), “as large as a six months’ pregnancy” (p. 90), “portions of abnormal intra-uterine conditions” (p. 131), “specially female diseases” (p. 166), and “going out” (meant, we presume, for *going out of fashion* [p. 283]); and, as instances of the latter, to “Garriguez” for *Garrigues*, “Schroeder” for *Schroeder*, “Crede” for *Credé*, “Kæberle” for *Kæberlé*, and “Well’s” for *Wells’s*.

Practical Medical Anatomy. A Guide to the Physician in the Study of the Relations of the Viscera to each other in Health and Disease, etc. By AMBROSE L. RANNEY, A. M., M. D., Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York, etc. New York: William Wood & Co., 1882. Pp. xxii-339. [Wood’s Library of Standard Medical Authors.]

IN the June number of this journal, 1880, Darling and Ranney’s “Essentials of Anatomy” was reviewed, and the following expression was used: “There is a road which, patiently followed, will lead any man to a knowledge of anatomy, but it is not by reading such books as this. It lies through the dissecting-room, with scalpel and forceps, and with books

which show him not only what to find, but also the practical utility of the thing when found." As Dr. Ranney's work was then made the text for a few remarks on the way anatomy should *not* be taught, we are doubly glad to hold up the present volume as an example of the way it *should* be taught, and to hail it as a decided move in the right direction. The first book was the mere skeleton, the dry bones, of the subject; this one is the living thing, complete so far as it goes, attractive and useful. Looked at in this light, we do not care to go into details, to spend time in searching after inaccuracies if there be any; we much prefer to welcome it as an indication of what the anatomical text-book of the future—that book which is sure to supplant every book now published for students' use—is sure to be.

The most popular, and by all odds the best, anatomy for students, up to the appearance of this one, was Holden's "Medical and Surgical Landmarks," notwithstanding it only consisted of a few hints. This one is better, because it systematically covers more ground. We shall not have the perfect one until some man of large surgical and anatomical knowledge, associated with skill in physical diagnosis and examination of the internal organs during life, combines all these things into one complete *practical* anatomy. Then, and not till then, will the student begin to appreciate why anatomy lies at the basis of his medical education, and then it will be a thing which will have attractions in itself, and not simply the hardest branch to master in all the course.

There is one thing to be avoided in a work of this kind, and we see that Dr. Ranney has not quite escaped it. For example, on page 182 the points in the diagnosis of abnormal swellings in the region of the neck have so little relation to the normal anatomy of the part, and are so decidedly matters of clinical surgery, that they appear a little out of place in an anatomical text-book. The same suggestion applies to the subjects illustrated in Figs. 32, 34, 35, 36, 37, 38, 39, 83, 84, 85, 88, 113, and others. In fact, there is a question as to the propriety of introducing Chapter II, on the modifications of the face in health and disease, into an anatomical text-book, no matter how good it may be in itself; and it is exceedingly good, and well written. This, however, is merely a matter of judgment. While referring to the drawings, we regret that more care and expense were not devoted to them by artist and publisher. Those illustrating the chapter just referred to, for example, though the same used when the article first appeared in the "New York Medical Journal," would hardly be recognized, so much are they changed for the worse by an excess of ink. Many of those, with which every reader is familiar, from the standard anatomical books are also much inferior to the originals (54, 55, 56).

And here our fault-finding ends; though it is not fault-finding after all, for we believe the author has done too good a work. In this volume he has included the anatomy of the head, neck, and trunk. Let him do the same thing with the extremities, then make those additions and subtractions to and from the text which will naturally occur to him as the subject de-

velops in his own mind, and the result will be the best anatomical text-book for students or practitioners yet published.

Recherches Cliniques et Anatomico-pathologiques sur les Affections Cutanées d'Origine Nerveuse. Avec 4 planches en chromo-lithographie et plusieurs figures intercalées dans le texte. Par HENRI LOLOIR, Docteur en Médecine de la Faculté de Paris, etc. Paris: Bureaux du Progrès Médical, 1882. Pp. 220.

THE influence of the nervous system in the production of disorders of the skin has not received from dermatologists the consideration which its importance as an etiological factor demands. The class of diseases comprehended under the general term "neuroses of the skin" has been restricted to those affections which are attended with alterations of sensibility without structural change. But the investigations made by Bärensprung, Brown-Séquard, Charcot, and others, in the pathology of the nervous system, have demonstrated the neurotic origin of many cutaneous diseases which are characterized by extensive structural changes. In fact, the most important advance made in dermatology in recent times has been based upon an appreciation of the intimate relations existing between cutaneous eruptions and disorders of the trophic vaso-motor nerves. When the controlling influence of these nerves upon the nutrition of the tissues is considered, it does not seem surprising that they should play an important rôle in the production of morbid cutaneous phenomena.

The influence of the moral emotions in the causation and course of many dermatic derangements was recognized by the older dermatologists, but it is only since the investigations of Bärensprung into the etiology of zona, and his discovery that the herpetic eruption along the cutaneous distribution of certain spinal nerves depended upon disease of the ganglia situated upon the posterior roots of these nerves, that anatomico-pathological research has been stimulated, and the nervous origin of many cutaneous lesions has been demonstrated.

In the work before us, Leloir gives us the accumulated facts of clinical experience and the pathological investigations of other observers relating to the subject, to which he also contributes the results of his individual work. In addition to herpes zoster, leprosy, mal perforant, and other diseases, the nervous origin of which has been signalized by other observers, he demonstrates this relationship in the case of vitiligo, ichthyosis, pemphigus, ecthyma, and certain forms of cutaneous gangrene. He bases his conclusions not upon *a priori* reasoning or loose deductions from clinical observation, but upon the pathological proofs of degeneration of peripheral and central nerves, the opportunity for the examination of which was furnished by the patients dying from some intercurrent disease. He includes in his category of cutaneous affections of nervous origin only such as have been verified by this anatomico-pathological test.

It is rare that we find in a book of the dimensions of this little volume the results of so much original work carefully conducted on a scientific basis.

The work is enriched with a number of fine colored lithographic plates, representing the pathological changes met with in the various forms of nerve degeneration associated with cutaneous lesions.

Manual of Diseases of the Skin; with an Analysis of Eight Thousand Consecutive Cases and a Formulary. By L. DUNCAN BULKLEY, M.D., Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-patient Department, etc. New York: G. P. Putnam's Sons, 1882. Pp. viii-312. [Price, \$1.25.]

An examination of this latest contribution of Dr. Bulkley to the literature of dermatology convinces us that it is in many respects his best. Not that it represents new or original views, or advances our knowledge of that department of medicine of which it is an exponent, but because it fulfills admirably the purpose for which such a manual is intended—viz., to present in a clear, concise, and compendious form an outline of the essentials of dermatology.

It is offered, as the author tells us in his preface, as an introduction to the study of this important branch, and his aim has been to make it thoroughly practical.

In a book designed especially to convey elementary instruction, the author's knowledge of the requirements of the medical student, gained from long experience in class-room lectures, has qualified him to present all the more important points relating to the symptoms, diagnosis, and treatment of diseases of the skin in a condensed and available form.

The book concludes with an admirably written chapter on diet and hygiene, and a formulary—much more extensive and complete than is found in many larger and more pretentious works.

The arrangement, style, and typographical excellence of the book leave little to be desired.

Antiseptic Surgery. The Principles, Modes of Application, and Results of the Lister Dressing. By Dr. JUST LUCAS-CHAMPIONNIÈRE, Surgeon to the Hôpital Tenon, etc. Translated from the second and completely revised edition, with the special sanction of the author, and edited by FREDERIC HENRY GERRISH, A. M., M. D., Surgeon to the Maine General Hospital, etc. Portland: Loring, Short, and Harmon, 1881. Pp. 239. [Price, \$2.25.]

DR. LUCAS-CHAMPIONNIÈRE's first edition was one of the earliest complete guides to the practice of antiseptic surgery, and was most favorably noticed in these pages. We heartily welcome Dr. Gerrish's translation of the

second edition, and recommend it to our readers; for we believe, with the translator, that its perusal will "make it plain not only that the Listerian theory is rational and its practice wonderfully satisfactory, but also that its application is neither difficult nor seriously expensive." The work is more comprehensive than the first edition was, and comprises an elaborate description of Lister's apparatus and materials, full directions for their use in all sorts of wounds, and statistics of English, French, and German surgeons. The translation is very good, and its value to the American practitioner is enhanced by judicious additions on the part of the editor.

Diseases of the Rectum and Anus. By CHARLES B. KELSEY, M. D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum, etc. New York: William Wood & Co., 1882. Pp. xii-299. [Wood's Library of Standard Medical Authors.]

THIS volume will be most acceptable to the subscribers to the series in which it appears, as it covers a field which the general practitioner usually intrusts entirely to the specialist. It will be still more prized by them when carefully read, as the author has been particularly happy in his style and method. The subjects of the various chapters are as follows: (1) Practical points in the anatomy and physiology of the parts under consideration; (2) Congenital malformations of the rectum and anus; (3) General rules for examination, diagnosis, and operation; (4) Inflammation of the rectum; (5) Abscess and fistula; (6) Hæmorrhoids; (7) Prolapse of the rectum; (8) Non-malignant growths; (9) Non-malignant ulceration; (10) Non-malignant stricture; (11) Cancer; (12) Impacted fæces and foreign bodies in the rectum; (13) Pruritus ani; (14) Spasm of the sphincter, neuralgia, wounds, and rectal alimentation.

It will be perceived that the work treats of all the more important conditions, and it can be said, furthermore, that little of practical interest has been omitted. It shows no "padding," nor is case after case narrated in full to swell the size of the book, and possibly that of the author. It is a fair and comprehensive statement of modern views on the diagnosis and treatment of rectal diseases, carefully compiled and brought within a moderate compass. Dr. Kelsey has shown his individuality in discussing the opinions of others, but has been courteous and just to previous authors in the same field, both in liberality of reference and in the statement of their views. There is much to commend in the first chapter, which is particularly replete with practical information; Chapter III will greatly aid the practitioner who is not familiar with rectal diagnosis; and Chapters V and VI give an excellent summary of the treatment of hæmorrhoids, abscess, and fistula. As a practical hand-book upon this subject, we know of no better work. We congratulate the author on the excellence of his work, and the publishers on issuing so attractive a volume.

On Cancer of the Breast. With colored illustrations. By THOMAS WILLIAM NUNN, F. R. C. S. Eng., Consulting Surgeon to the Middlesex Hospital. London: J. & A. Churchill, 1882, 4to, pp. xiv-230.

IN view of the author's high rank, a work from him on a subject which admits of so much diversity of opinion must be welcomed. The book is divided into two parts. The first part treats of the practical and clinical aspects of the subject; the second treats exclusively of its pathological and speculative aspects. In Part I we find a consideration of the frequency of cancer, the age of those affected, the questions of diagnosis and prognosis, and the results of operative procedures. The latter has interested the reviewer more than some other topics considered. There are many surgeons of large experience who to-day have almost entirely abandoned surgical procedures for the relief of this disease. They have found the necessity for repeated operations so frequent, and the duration of life so short after the necessity for operative interference seemed imperative, that the question of material benefit to the patient has been decided in the negative. Some have even been convinced that removal of these growths shortened life. These skeptics view cases where long-continued relief has followed an operation as those of mistaken diagnosis; and they point to the ever-increasing list of patients who have dragged out a wretched existence after operative procedures till death has occurred, in support of their position. Perhaps the time will never come when quacks will not grow rich from "marvelous cures" of cancer attributed to the use of plasters, ointments, electricity, etc.; and is it to be wondered at that suffering humanity turn, when once afflicted with a questionable tumor, to any source which promises relief? Several recent works have tended to bring the operation of removal of the breast for cancer into renewed favor, and yet we see by statistical reports that the "selected cases," even of these authors, often have death hastened rather than retarded by surgical interference. The subject is one which can not yet be settled conclusively. Both sides of the question may be argued ably, and Mr. Nunn has cast the weight of his experience in favor of the "judicious" use of the knife. Several pages are devoted to the steps which he deems best adapted for success, and various other methods of treatment are enumerated, including that by electrolysis, various caustics, acetic and sulphurous acids, disinfectants, etc.

In Part II the author considers the theories of origin of cancer, and reviews them critically. This is done in a manner at once respectful and pleasant toward other investigators, but with every evidence of personal research and careful deduction.

Some beautiful drawings of sections of malignant growths, and of some exceptionally severe forms of this disease, are incorporated in the book. The author and the publishers deserve hearty commendation for the work which they have issued. It will probably not alter the views of some of the older surgeons, but it will afford the younger members of the profes-

sion ample facilities for a study of the subject, and serve as a guide to them in the treatment of cases intrusted to their charge.

The Psychology of the Salem Witchcraft Excitement of 1692, and its Practical Application to our own Time. By GEORGE M. BEARD, A. M., M. D., etc. New York: G. P. Putnam's Sons, 1882. Pp. xx-112. [Price, \$1.]

THE analogy between the Salem witchcraft excitement and the trials of Guiteau and Cadet Whittaker might not occur to the ordinary mind, but Dr. Beard, in endeavoring to make that analogy plain, has once more thoroughly aired his opinion that Guiteau was insane and irresponsible, and Whittaker innocent. The matter of this little book being written, the title was of secondary importance, and was not, perhaps, very aptly chosen. The Salem witchcraft excitement serves as an introduction. The analogy which Dr. Beard dwells upon is indicated in the following sentences: "Such was the witchcraft excitement in Salem in 1692; such was the Guiteau excitement in Washington in 1882; the one marking the death of the dogma that the innocent should be condemned to death for the fancied crime of witchcraft on specter evidence, and the other marking the death of the dogma that ability to know right from wrong is proof of responsibility, and that the insane who commit murder should be hanged.

"As the twenty victims of the Salem judicial massacres were nearly the last of the immense army of murdered witches, so Guiteau will be nearly the last important lunatic ever hanged on this continent; and through all time his trial will stand—as the Salem witchcraft trials have stood—as a historic memorial of the power of passion re-enforced by superstition."

The book we should judge to be intended rather for the general reader than as a deep study of the questions involved, and the psychological part of it is not therefore unduly prominent. Once more, in a readable, semi-scientific fashion, we are made to remember that Dr. Beard did not approve of the hanging of Guiteau.

The Human Brain: Histological and Coarse Methods of Research. A Manual for Students and Asylum Medical Officers. By W. BEVAN LEWIS, L. R. C. P. (Lond.), Deputy Medical Superintendent to the West Riding Lunatic Asylum. London: J. & A. Churchill, 1882. Pp. xv-163. [Sheets.]

THIS work appears in loose sheets without binding or stitching. It is practically a reprint of a series of articles, which were published in "Brain," relating to the methods of preparing, demonstrating, and examining cerebral structure in health and disease. To many of our readers these articles are doubtless familiar. Part I of the work treats of the coverings of the brain, the vessels, and the gray and white substance. It covers, therefore, the steps necessary to the removal and dissection of the brain, and the de-

termination of its weight and volume. Part II treats of the minute examination of brain tissue. Methods of freezing, cutting, hardening, staining, and mounting are given in detail. About a dozen illustrations of apparatus are incorporated. At the end of the volume some photographs of the brain are inserted. The work is a valuable one to those who are specially interested in the study of this undeveloped field of anatomy.

The Brain and its Functions. By J. LUYX, Physician to the Hospice de la Salpêtrière. With illustrations. New York: D. Appleton & Co., 1882. Pp. xix-327. [International Scientific Series.]

THE publishers have made a happy selection in Dr. Luyx for a work designed to present in a popular form the subject treated of in this book. The author has a world-wide reputation as an original investigator in the field of nervous anatomy, and his latest effort is admirably adapted to meet the wants of the reader who seeks a general insight into the mysteries of the mechanism of the brain and the various functions for which that organ was designed. The author's style of writing is charming, and the scope of the work covers all the important questions which pertain to sensibility, motion, automatism, memory, judgment, etc. The anatomical portion of the work is made extremely simple by the frequent incorporation of admirable diagrams. We can heartily commend the work to medical readers, as well as to others, as worthy of a careful perusal.

A Manual of Ophthalmic Practice. By HENRY S. SCHELL, M. D., Surgeon to Wills Eye Hospital, etc. With 53 illustrations. Philadelphia: D. G. Brinton, 1881. Pp. 263.

THIS little volume is divided into fourteen chapters. The first chapter is devoted to a very brief summary of the anatomy and physiology of the eye, in which there are several faulty statements, among them the retention of the term "tarsal cartilage" of the eyelids. In the chapter upon accommodation and refraction, the brief but clear statement of the relative advantages and disadvantages of the focal and dioptric systems of lenses is to be commended. In the chapter upon the disorders of the ocular nerves and muscles there is a very good description of what is called "reflex asthenopia." In several places we note that the author evidently believes in the internal administration of iodoform in cases where potassium iodide fails to produce the desired effect; we have never seen it prove of any demonstrable value when used internally.

In general, the author's ideas on ophthalmic therapeutics are very sound, and the advice given will no doubt prove useful to the general practitioner, for whom and for the medical student this little volume is evidently intended. Some of the illustrations are good, but some are bad, notably one

on page 70, which is supposed to represent a case of symblepharon. The type and paper are admirable, and the book contains also quite a complete index, which is a great help to the reader.

The Experimental Method in Medical Science. Second course of the Cartwright Lectures of the Alumni Association, College of Physicians and Surgeons, New York. By JOHN C. DALTON, M. D. New York: G. P. Putnam's Sons, 1882. Pp. 108. [Price, \$1.25.]

A LESS ambiguous title for these admirable lectures would be "The influence of some historical experiments on medical science." We were led from the title as it stands to look for a discourse on experiment as a method of investigation in medicine. In the first lecture Dr. Dalton takes us with wonted skill through the immortal experiments of Galvani and Volta, and those investigations of subsequent observers by which our present physiological knowledge of the nervous system has been mainly built up. The relevancy of Buffon's theory of organic molecules and Bonnet's theory of the inclusion of germs, which form the burden of the second lecture, to the general theme is not obvious. In the third lecture the reciprocal aid of the discoveries of Waller and Türck is well set forth. Both for its literary graces and for the historical value of its subject-matter, this little book should be added to every scientific and medical library.

Memoranda of Physiology. By HENRY ASHBY, M. D. (Lond.), etc. Third edition, with additions and corrections by an American editor. New York: William Wood & Co., 1882. Pp. xii-319.

THIS little work deserves the popularity which is attested by the issue of a third edition. It is clearly written, even where it is made as brief as possible. The views adopted are the latest, this being especially evident in the article on digestion, where the experiments of Roberts receive attention. The book will be useful not only to the student, but also to the practitioner who wishes to look up particular points without reading too far in search of them.

Medical and Surgical Reports of the City Hospital of the City of Boston. Edited by DAVID W. CHEEVER, M. D., OLIVER F. WADSWORTH, M. D., and A. L. MASON, M. D. Third Series. Boston: Published by the Trustees, 1882. Pp. viii-390.

THIS book contains a good deal of interesting clinical matter for the general practitioner of medicine or surgery, and for the specialist. The medical part includes articles on the histology of the spinal cord, with microscopic drawings; on typhoid fever, with notes, by Dr. Stedman; an interesting series of fifty medico-legal autopsies by Dr. Draper; and an

analysis of two hundred cases of primary pleurisy by Dr. Mason. The surgical part consists mainly of the reports of individual cases, some of them interesting and important. There are also a synopsis of the gynæcological cases treated during the past five years; notes of two cases of uterine fibroid; and a study of fifteen cases of optico-ciliary neurotomy. The work is well printed with large type on good paper, and most of it is very interesting reading; it would be improved, however, by an index, and the list of illustrations is incomplete.

First Aid to the Injured. By PETER SHEPHERD, M. D., etc. Revised by BOWDITCH MORTON, M. D. New York: G. P. Putnam's Sons, 1882. Pp. viii-88. [Price, 50c.]

THIS little book hardly deserves an extended notice in a medical journal, as it is not designed for medical readers. It is a popular book, intended to instruct the public as to the proper steps to be taken in emergencies before competent medical aid can be had. It is of necessity couched in terms which can be understood by the lay public. Its scope covers a hasty anatomical sketch, and, in subsequent parts, the subjects of insensibility, injuries of the head, suffocation, hæmorrhage, fractures, wounds, disinfection, baths, poisons, and sudden death. It is well indexed, and will be of use to those for whom it is designed. To the practitioner who wishes a handy pocket volume it might prove of service in cases of emergency, as it covers more ground than its title would indicate.

Aids to Diagnosis. Part III—What to Ask. By J. MILNER FOTHERGILL, M. D., M. R. C. P. New York: G. P. Putnam's Sons, 1881. Pp. 66. [Students' Aids Series.]

THIS little volume, of convenient size for the pocket, is written in a style and manner very characteristic of the author. It is composed of hypothetical conversations between a young doctor and his patients with various diseases, the intention being to accentuate the points in diagnosis which deserve attention, and to show what is likely to be overlooked. Probably no one but the author could write exactly this sort of a book, and make it as readable and instructive as he has done. It will repay any one to read it.

The Vest-Pocket Anatomist. By C. HENRI LEONARD, A. M., M. D., etc. Eleventh edition. Detroit: Illustrated Medical Journal Co., 1882. Pp. 82. [Price, 75c.]

THIS is a cram-book. It is needless to state that eighty-two small pages can not contain much anatomy. It is an abstract of Gray (like most of these works), and a very poor and incomplete one. It omits osteology

altogether, disposes of the cranial nerves in about one page, and shows in general how books can be ground out with machine-like rapidity, without thought or originality.

A Treatise on the Physiological and Therapeutic Action of the Sulphate of Quinine. By OTIS FREDERICK MANSON, M. D., Professor of Physiology and Pathology in the Medical College of Virginia. Philadelphia: J. B. Lippincott & Co., 1882. Pp. 164.

ONE might consider a work on the sulphate of quinine almost superfluous at this time; and yet so much of value continues to appear in the journals in different localities that a collection of all such material, and a thorough digest of it, is a work that should be occasionally performed. The author has endeavored to select from a very extensive bibliography all that is likely to be of interest in connection with a very popular medicine.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital, etc. Second edition. Detroit: George S. Davis, 1882. 16mo, pp. 96.

THIS is a little book which can be carried in the pocket, and which contains brief and precise directions for the treatment of poisoning from various substances. The directions are very brief, and points are merely stated without any discussion.

BOOKS AND PAMPHLETS RECEIVED.—The Pharmacopœia of the United States of America. Sixth Decennial Revision. By authority of the National Convention for Revising the Pharmacopœia, held at Washington, A. D. 1880. New York: William Wood & Co., 1882. Pp. xli-488. ===== *Leçons Cliniques sur l'Épilepsie: Leçons faites à l'Asile Sainte-Anne.* Par M. V. Magnan, Médecin en chef à l'Asile Sainte-Anne, etc. Recueillies et publiées par M. le Dr. Marcel Briand, Ancien Interne et Médecin Inspecteur Adjoint des Asiles d'Aliénés de la Seine. Paris: Bureaux du Progrès Médical, 1882. Pp. 87. ===== *A Treatise on the Practice of Medicine, for the use of Students and Practitioners.* By Roberts Bartholow, M. A., M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. Third edition, revised and enlarged. New York: D. Appleton & Co., 1882. Pp. xx-918. [Price, cloth, \$5; sheep, \$6.] ===== *The Chamberlens and the Midwifery Forceps: Memorials of the Family, and an Essay on the Invention of the Instrument.* By J. H. Aveling, M. D., F. S. A. London: J. & A. Churchill, 1882. Pp. x-231. ===== *A System of Surgery; Pathological, Diagnostic, Therapeutic, and Operative.* By Samuel D. Gross, M. D., LL. D., D. C. L. Oxon., LL. D. Cantab., Emeritus Professor of Surgery in the Jefferson Medical College. Illustrated by upward of sixteen hundred engravings. Sixth edition, thoroughly revised and greatly improved. In two volumes. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xxxii-35 to 1194, inclusive; xxxii-19 to 1174, inclusive. ===== *The Principles and Practice of Surgery.* By John Ashhurst, Jr., M. D., Professor

of Clinical Surgery in the University of Pennsylvania, etc. Third edition, enlarged and thoroughly revised. With five hundred and fifty-five illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xxviii-33 to 1064, inclusive. ===== Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. Second edition, enlarged and improved. With one hundred and nine illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. xx-17 to 291, inclusive. ===== Regional Surgery, including Surgical Diagnosis. A Manual for the Use of Students. Part I—the Head and Neck. By F. A. Southam, M. A., M. B. Oxon., F. R. C. S. E., Assistant Surgeon to the Manchester Royal Infirmary, etc. London: J. & A. Churchill, 1882. Pp. xvi-229. ===== A Supplementary Catalogue of the Pathological Museum of St. George's Hospital: a Description of the Specimens added during the years 1866-1881. By Isambard Owen, M. D., Curator. London: J. & A. Churchill, 1882. Pp. xxxiv-284. ===== A Practical Treatise on the Diseases of the Uterus, Ovaries, and Fallopian Tubes. By A. Courty, Professor of Clinical Surgery, Montpellier, France. Translated from the third edition by his pupil, Agnes M'Laren, M. D., M. K. Q. C. P. I. With a Preface by J. Matthews Duncan, M. D., LL. D., F. R. S. E., Obstetric Physician to St. Bartholomew's Hospital, London. Philadelphia: P. Blakiston, Son & Co., 1883. Pp. viii-810. [Price, cloth, \$6; sheep, \$7.] ===== A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M. D. Edin., F. R. C. P. Lond., late Lecturer on Materia Medica at St. Mary's Hospital Medical School, etc. Third American edition, revised by the author. Enlarged and adapted to the U. S. Pharmacopœia by Frank Woodbury, M. D., Physician to the German Hospital, Philadelphia. Philadelphia: Henry C. Lea's Son & Co., 1882. Pp. 526. ===== Rheumatism, Gout, and Allied Disorders. By Morris Longstreth, M. D., one of the Attending Physicians of the Pennsylvania Hospital, etc. New York: William Wood & Co., 1882. Pp. vii-280. [Wood's Library of Standard Medical Authors.] ===== Questions on Human Anatomy. By Samuel O. L. Potter, M. A., M. D., etc. With sixty-three illustrations. Philadelphia: P. Blakiston, Son & Co., 1882. Pp. 139. [Price, \$1.] ===== The Spinal Nerves. By A. H. P. Leuf, M. D. Brooklyn: F. B. O'Connor, Jr. Pamphlet and folding plates. [Price, \$1.] ===== Cases of Pericarditis with Effusion. By J. Hamilton Mackeechnie, M. D., Physician to the London Homœopathic Hospital. [Pamphlet.] ===== A Hand-Book of Homœopathic Practice. By George M. Ockford, M. D., etc. Chicago: Duncan Brothers, 1882. Pp. 435. ===== Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General October 1, 1882. ===== London Water Supply. Report, etc. No. xx. ===== The Physician's Visiting List (Lindsay & Blakiston's) for 1883. Philadelphia: P. Blakiston, Son & Co. ===== In addition we have received a number of pamphlets, the separate acknowledgment of which is prevented by lack of space.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(Concluded from November number.)

A NEW METHOD OF EXPLORATION, WITH THE PATHOLOGY AND TREATMENT OF CERTAIN LESIONS OF THE FEMALE URETHRA.—The PRESIDENT's address, by Dr. Thomas Addis Emmet, of New York. The author of the paper believed that there was as much obscurity in the knowledge which the profession at large possessed concerning diseases of the female urethra as there existed with reference to uterine disease before the introduction of Sims's speculum, some forty years ago. Dexterity had been attained by some in the use of instruments, and by those a fair degree of success had been obtained in the treatment of these affections. A profound degree of ignorance, however, had been the rule, and a frequent result had been the confounding of cause and effect. It seemed scarcely credible that the bladder had been treated heroically for disease when the cause of irritation had been fissure of the anus, yet such was the fact. The method of exploration he described was devised by himself six years ago, and consisted in making a button-hole opening into the female urethra. During the last two years he had studied the subject very carefully, and had reached the conclusion that the method was the only one within our knowledge which fulfilled every indication, and was safe, simple, and within the reach of every one possessing the least degree of surgical dexterity. The operation was performed as follows: Anæsthetize the patient and place her upon the left side, using a Sims speculum to bring into view the vaginal surface covering the urethra. He had devised, for making the opening, an instrument formed somewhat on the principle of scissors used for cutting button-holes, but, although it answered the purpose, it had not been perfected to his satisfaction. When the opening was made by means of the knife or scissors, the operation could be greatly facilitated by first introducing into the urethra a block-tin sound of sufficient size to put the tissues within the canal somewhat on the stretch. This sound might be given the short curve employed for entering the male bladder. Then, to dispense with the aid of an assistant, the curved portion could occupy the urethra and pass for a short distance beyond into the bladder, while the other extremity was supported by resting on the lower thigh or between the legs of the patient, which were to be properly flexed. The operation was begun by catching up with the tenaculum all the tissues on the vaginal surface about midway between the mouth of the urethra and the neck of the bladder, and dividing them through to the sound. After this the canal was entered, and the incision was extended with a pair of straight-pointed scissors in the median line backward toward the neck of the bladder, and forward to within one third of an inch of the mouth of the urethra. It was necessary to avoid dividing the urethral outlet, as it would thus be less difficult to close the opening properly at a future date; and it was also still more important that the incision should stop short of the neck of the bladder without involving it, as the patient would then continue after the operation to have control over the escape of urine. He wished particularly to impress the importance of

this precaution, not to extend the incision through the urethral surface too far backward. If the consequences were no worse even than a temporary loss of control, this would prove a serious inconvenience and an objection to the operation. The cut along the vaginal surface should be made nearly one third longer than the one through the urethral mucous membrane, and it was important that the chief difference should be toward the neck of the bladder. Should the opening be made simply for purposes of exploration, it might be united at once. To do this properly the edges must be turned by means of a tenaculum, so that the suture would include the mucous membrane and bring the edges into close contact. To insure this, introduce the sutures at some distance from the edge entirely through the flap down to the block-tin sound, then across and through the opposite flap at a corresponding point. The after-treatment consisted in keeping the patient in bed until the sutures had been removed, probably a week, and in being careful for a few days longer. While in bed she should be allowed to empty the bladder at will, using the bed-pan when possible, and avoiding the catheter except under the most urgent circumstances. When it was desirable to keep the opening patulous, the edges of the divided urethral mucous membrane might be united to the vaginal surface by means of interrupted sutures of properly prepared catgut, or simple silk which had been thoroughly carbolized. The special advantages claimed for the method were that the whole of the canal could be fully exposed and any mode of treatment could be easily adopted; that the operation was safe and could be performed easily; that, if properly performed, control of the urine would not be in the slightest degree impaired; and that the bladder could be subsequently evacuated voluntarily and without difficulty.

It was not intended that this opening in the urethra should in any way supersede vaginal cystotomy in the treatment of cystitis or for the removal of stone in the bladder. This opening in the urethra could not be of the slightest advantage for drainage of the bladder unless the canal was also involved. Under such circumstances, where an opening was made in the urethra, one was also needed in the bladder, and the incision was to be extended by a continuous line along the vaginal wall, but not through the neck of the bladder (at least one half the thickness of the septum must be left at this point), and then the base of the bladder could be entered beyond to form a fistula, which opening was to be extended by incision as far as it might be necessary toward the neck of the uterus.

Dr. FORDYCE BARKER, of New York, in behalf of Dr. Lusk, referred to two cases in which the latter had resorted to Dr. Emmet's method with the most gratifying results.

Dr. A. J. C. SKENE, of Brooklyn, believed that the unqualified condemnation of all other methods of exploring the female urethra was altogether too sweeping, for, with a single exception—namely, polypus or any neoplasm, the one brought forward so prominently—we had had means equally as accurate and efficient to aid us in making a diagnosis as that described by the President. Ulceration, inflammation, fissure, etc., could be diagnosticated much easier by means of the endoscope than by the method devised by Dr. Emmet, and the statement was not merely theoretical, but one which could be demonstrated. Moreover, he did not think it was an easy operation to perform. It might be so for Dr. Emmet, but the general practitioner, and even some experts, did not find it so. Inflicting an important injury (which required to be repaired by a delicate operation) in order to detect a disease was not a "simple" procedure. As a means of diagnosis in cases of urethral polypus or any of the neoplasms it was

most excellent; but, in Dr. Skene's opinion, its superiority ended at this point. Some practice was necessary to acquire facility in the use of the endoscope, but he could teach a student how to explore the urethra with this instrument much more easily than he could teach him to perform the operation recommended in this paper.

The PRESIDENT remarked that his method was intended solely for exploring and facilitating the treatment of diseases of the urethra. It was proposed for the general practitioner, and he knew of no method that could be so easily adopted, or that gave such satisfactory results.

NOTES OF TWENTY-ONE CASES OF EXTRA-UTERINE PREGNANCY.—Dr. T. GAILLARD THOMAS, of New York, read a paper with this title. He said that until the last decade very little attention had been paid to the clinical study of extra-uterine pregnancy; and, despite all the advance that had been made, our knowledge of the subject yet remained elementary, our means of diagnosis uncertain, and our methods of treatment unsettled. For the practitioner there were naturally but three varieties of this condition: the tubal, the interstitial, and the abdominal. The symptoms which had led to diagnosis most frequently in the cases he had observed were those of normal pregnancy accompanied by, first, irregular gushes of blood, ceasing and suddenly recurring without assignable cause; second, fixed grinding pain in one iliac fossa, and perhaps down the corresponding thigh; third, paroxysmal pains occurring with severity, marked by constitutional symptoms and in a short time passing off, to recur with increased violence in a few days; fourth, symptoms of abortion without an appearance of the fœtus; fifth, expulsion of membranes without accompanying fœtus.

The physical signs which sustained the validity of these symptoms were, first, increased size in the uterus and displacement of it upward, forward, or laterally; second, evidence of vacuity in it, yielded by the sound or by a tube; third, the presence, either to one side of the uterus or behind it, of a cystic tumor somewhat painful to the touch, rather immovable, giving to palpation a sense of rather obscure fluctuation, and in some cases yielding the sign of "ballottement." In a few of his cases this sign had been plainly distinguishable, but this had been an exception to the rule, and the absence of it should never be relied upon as evidence against the existence of the condition. In advanced gestation the movements of the fœtus, the fœtal-heart sounds, and the placental murmur were valuable signs, but in tubal pregnancy, the most common variety, death generally occurred from rupture of the sac before they became available. The best method of differentiating between normal and tubal pregnancy was to dilate the cervical canal by means of tents and explore with the finger; but this was not absolutely conclusive, even if a fœtus was found in utero, because a combined uterine and extra-uterine pregnancy had been met with repeatedly. The continuation of the signs of pregnancy with an empty uterus, but a tumor present alongside of or behind the organ, would be very valuable evidence. With reference to treatment he gave the following rules, which he thought his experience would induce him to adopt in the future:

First. If an ectopic tumor were discovered and its nature pretty well settled before the end of the fourth month of gestation, he would destroy the vitality of the child by electricity in preference to all other methods which had been proposed. It had these great advantages: if an error of diagnosis had been made, this remedy would do no harm; if the diagnosis were correct, experience proved it to be sufficient in its effects. It was almost painless, and caused none o

the nervous disturbances created by a cutting operation, and it required no surgical skill in its use.

Second. Should the fourth month of gestation be passed and surgical interference be called for, he thought that laparotomy or, if the tumor were low down in the pelvis, elytrotomy should be preferred to the use of electricity, which left a large fœtal body to undergo absorption inside the body of the mother.

Third. Should the pregnancy be abdominal, the practitioner might watchfully await the full term of gestation, and deliver then, by laparotomy or by elytrotomy, combined with the forceps or version.

Fourth. Should full term be passed, and the fœtus be dead, the practitioner should wait and watch, if possible, until Nature demonstrated the outlet by which she desired the extrusion to be effected; then she should be aided. If, on the other hand, bad symptoms under these circumstances at any time showed themselves, laparotomy, under strict antiseptic precautions, should be promptly resorted to.

Fifth. Should rupture of the fœtal nidus have occurred before a diagnosis had been fully made, the practitioner should wait and see whether Nature was powerful enough to overcome the shock and control hæmorrhage, then, further, if the patient was going to escape the dangers of peritonitis and septicæmia. If these favorable results did not occur, if hæmorrhage was about to destroy the patient immediately, or if septicæmia attacked her, laparotomy, followed by antiseptic cleansing, should be promptly adopted.

Of his twenty-one cases, rupture of the sac occurred in five, and, of these, four of the patients died and one recovered, none being operated upon; seven were interfered with by surgical means, and, of these, three of the patients died and four recovered; two were treated by vaginal tapping with a very small trocar, and both patients died; six were treated with electricity, and all of the patients recovered; spontaneous death of the fœtus occurred in three, with expulsion of the fœtal bones through the rectum, and, of these, two patients recovered and one died.

Dr. H. J. GARRIGUES, of New York, then read a paper on ELECTRICITY IN EXTRA-UTERINE PREGNANCY. It was prepared with special reference to treatment. Five methods had been suggested for killing the child. These could be conveniently grouped under two heads: first, sharp instruments, introduced through the roof of the vagina or through the abdominal wall, including puncture, injection, elytrotomy, and laparotomy; second, dilatation and electricity. Of these, electricity was the best, was really the only measure to be employed, and it was the duty of the physician to give the patient the benefit of its application. It had been objected to, first, because it was unreliable, and, second, because it was apt to cause rupture of the cyst. The second objection was regarded by Dr. Garrigues as purely theoretical. With reference to the first, electricity had been successful, up to the middle of the fourth month, in every case in which it had been employed. The conclusions which the author of the paper reached were, that experience had proved electricity to be an efficacious and safe agent for arresting extra-uterine pregnancy during the first three months, and perhaps in some cases where the pregnancy had even advanced more or less into the fourth month; that it seemed likely the same agent might be profitably used at any period of fœtal life. The clinical history of a case was given in which he used a one-celled French electrical apparatus successfully. The applications, ten in all, were made daily, each sitting occupying ten minutes, and

during the time the woman was able to attend to the duties of her small household.

Dr. H. F. CAMPBELL, of Augusta, Ga., referred to one case in which, at the autopsy, extra-uterine pregnancy of the tubo-ovarian variety was found. The mother had gone beyond the full term, and the child was fully developed without rupture of the sac. The patient died of exhaustion soon after reaching the hospital, and without a diagnosis.

Dr. H. P. C. WILSON, of Baltimore, referred to cases, seen in consultation, where the women had died suddenly, death being due probably to rupture of the cyst. He had had two cases of extra-uterine pregnancy under his own care. The first was a case of twin pregnancy in which one of the children was born in the natural way, and the other he removed through an abdominal incision, and it lived two months. The mother recovered. In the second case he destroyed the life of the fœtus by electricity, placing one pole upon the tumor in the vaginal cul-de-sac and the other above the pubes. The woman made a good recovery. There was nothing especially noticeable in the clinical history. Ballotement was absent.

Dr. WILLIAM GOODELL, of Philadelphia, said, with reference to diagnosis, that he would suspect extra-uterine pregnancy when pregnancy occurred after a long cessation of fruitfulness or a long-continued sterility. Extra-uterine pregnancy was also occasionally supposed to be retroflexion of a pregnant uterus. The occurrence of paroxysmal pains associated with symptoms of pregnancy he regarded as a very valuable symptom; also the fact that the size of the cyst was not equal to that which the uterus would have attained at a corresponding period of uterogestation. He had seen thirteen cases, and the histories of these were given briefly. Death took place in all except those in which Nature interfered.

Dr. ALBERT H. SMITH, of Philadelphia, referred to the thermometric test as an aid in determining the existence of pregnancy. The temperature of the cervical canal in pregnancy varied from three fourths to one and a half degree higher than the normal, and it had been established that where the fœtus died the temperature fell proportionately lower within thirty-six hours after its death had occurred.

Dr. G. H. LYMAN, of Boston, thought that at the time when electricity would be of the greatest service—that is, in early pregnancy—the diagnosis was not so easy. The suspicion of extra-uterine pregnancy was not, at that time, very strong, and frequently cases progressed until rupture of the cyst took place before diagnosis was made. Early diagnosis, therefore, became a question of special importance. He then quoted from the paper read by Dr. Reeve, of Dayton, Ohio, and published in the fourth volume of the "Transactions" of the society, in which the author referred to a statement made by Dr. Stephen Rogers as far back as 1867—namely, that "attacks of colicky pain accompanied by a sanguineous discharge, the symptoms of pregnancy being present, were almost certainly indicative of extra-uterine pregnancy."

Dr. HOWARD, of Baltimore, thought that a diagnosis could be reached in most cases without very great difficulty. He had seen three cases, to which he referred briefly. With regard to diagnosis, he thought it important to bear in mind Dr. Barnes's statement that the placental souffle was absent in abdominal pregnancy. In any case of suspected abdominal pregnancy a distinct fœtal-heart sound and absence of placental souffle would go far toward settling the diagnosis.

Mr. KNOWSLEY THORNTON, of London, Eng., said that, whereas he had been

an advocate of surgical interference in cases of extra-uterine pregnancy, he should return home determined to use electricity. He referred to a case confirmatory of Dr. Goodell's statement concerning the suspicion of extra-uterine pregnancy where a long period had elapsed between one pregnancy and another. A girl had a child, afterward was married, remained sterile for some years, and then became pregnant, and it proved to be extra-uterine. In that case he operated and removed a fœtus that had been dead for some time. The placenta was attached to the right side of the uterus, and apparently had maintained life independent of the fœtus.

Dr. GOODELL said that he could well understand the absence of the placental souffle in abdominal pregnancy. The term placental souffle was a misnomer, the sound really being uterine and not placental, and, of course, when no uterine tissue was involved it would be absent.

THE INFLUENCE OF THE CONSTANT USE OF HIGH-HEELED FRENCH SHOES UPON THE HEALTH AND FORM OF THE FEMALE, AND UPON THE RELATION OF THE PELVIC ORGANS.—Dr. SAMUEL C. BUSEY, of Washington, D. C., read a paper on this subject, in which he first referred to the history of coverings for the feet from the time of the ancient Egyptians. The original design of the heel was to increase the height of the person wearing it. The peculiarity of the French high heel worn by women was that it was not only high, but it also was narrow, and inclined from behind forward, so that its inferior extremity, instead of being under the calcanean tuberosity, was directly under the plantar arch. Toward the close of the seventeenth century Camper published his work on the best form of shoe, in which he discussed the question from the stand-point of anatomical construction, utility, and comfort. Paget's description of a perfect female foot was given—namely, "great breadth and fullness of instep, a well-marked great toe, a long second toe projecting a little beyond the great toe, and a very small, or, in some cases, an almost suppressed little toe." The author of the paper then presented the anatomical construction of the foot, with its arches and articulations, and demonstrated, by means of additional diagrams, the effect produced upon the arch, in walking, by elevation of the heel, and also the effect produced upon the feet and legs, and through them upon the general outlines of the body. Elevation of the heel displaced the basis of the line of gravitation forward, and transferred greater weight to the distal extremity of the plantar arch. The consequence was that the equilibrium of the body could be restored and maintained only by an increase of the natural bendings and curves along the line of the bony frame-work. Especial attention was directed to the change thus produced in the obliquity of the pelvis, and to the probable corresponding change in the position of the uterus and other pelvic organs. As the inclination of the plane of the brim increased or diminished, the uterus, through its long axis, approached or receded from the vertical line. In an elastic flexible substance like the human body, to readjust disturbances of equipoise there must be compensating alterations, bendings, and flexions. How were these relations of the natural form influenced by excessive and constant elevation of the heels? The deflection was primarily at the base of the line of gravitation, and above this greater or less deflections of the entire skeleton occurred. Vascular, postural, and nutritive disturbances followed, and they were not necessarily confined to the bladder, uterus, and rectum, but the ovaries, Fallopian tubes, vagina, ligaments, and fasciæ might become involved. Menstrual disturbances and vaginal discharges were the most common manifestations.

Dr. FORDYCE BARKER, of New York, had not observed any special effect upon the pelvic organs due to the wearing of high-heeled shoes, although he had watched for such cases, and had expected, from a theoretical stand-point, that disturbances traceable to this fashion as a cause would be developed. The subject, so carefully presented by the author of the paper, was, however, one of importance, and should not be lost sight of in studying the clinical history of pelvic affections.

Dr. T. G. THOMAS, of New York, had not observed any condition of the pelvic organs which he thought could be traced to the influence of high-heeled shoes. Surely we had a right to expect certain deleterious results, but, as a matter of fact, he had not observed them in practice.

Dr. T. M. DRYSDALE, of Philadelphia, then read a paper on THE OVARIAN CORPUSCLE: ITS ORIGIN AND CHARACTERISTICS. It was a reply to the paper read by Dr. H. J. Garrigues, of New York, at the last meeting of the society. The author of the paper summarized his statements with reference to the ovarian granular cell (Drysdale's corpuscle) as follows: First, that the cell called the ovarian granular corpuscle was almost invariably found in the fluid of ovarian cysts; second, that this cell might be distinguished from the pus cell, lymph corpuscle, white blood or other cells which resembled them, both by appearances of the cell and by its behavior with acetic acid; third, that it had been named the ovarian granular cell to distinguish it from all other cells found in abdominal dropsical fluids, not meaning to assert that a cell having a similar appearance might not be found in cysts met with in other parts of the body; fourth, that this cell, when found in this locality, was pathognomonic of ovarian disease; fifth, that the granular cell was discovered by himself in ovarian fluids, and differed in appearance and its behavior with acetic acid and ether from any other granular cell found in the abdominal cavity, and, by means of these reagents, could be readily recognized as the cell which had been described; and further, that by the use of the microscope, assisted by these tests, we might distinguish the fluids removed from ovarian cysts from all other abdominal dropsical fluids; sixth, that a full and accurate description of this cell had never been published, to his knowledge, except by himself, nor any tests given by which to distinguish it from others which often closely resembled it.

Dr. GARRIGUES, quoting from his paper, believed: "first, that the bodies found in ovarian fluids, and known as Drysdale's corpuscles, were not cells, but only nuclei; second, that, in appearance, they were entirely like the pyoid bodies described by Lebert as early as 1846, and that the test given for them by Lebert was the same—acetic acid; and further, that Lebert had shown that they could be found in various parts of the body; third, that in ovarian fluids these bodies were first described in 1852 by John Hughes Bennet, with indications of the effect which acetic acid had upon them; fourth, that these bodies were not pathognomonic of ovarian nor any other cysts, as they might be found in various parts of the body."

Dr. DRYSDALE then gave his views concerning the origin of the "ovarian granular cell," and concluded that it was derived from the inner wall of ovarian cysts which had an epithelial lining like the Graafian follicle from whence they originated. The rapid growth and shedding were, as usual in such cases, attended by a partial degeneration of the cells, giving them their granular appearance; and their delicacy and transparency, so peculiar to them, were acquired by maceration in the albuminous fluid of the cyst in which they were at once im-

mersed. He believed that these bodies were cells, and that they were aborted epithelial cells.

Mr. THORNTON, of London, Eng., thought that Dr. Drysdale had entered a field in which questions were in a decidedly unsettled condition, because of the great diversity of opinion among pathologists and histologists as to what constituted a cell, and what was the mode of its growth. Without this definite basis of investigation it might, almost as a matter of course, be expected that he would differ with Dr. Drysdale in what he had said concerning the manner in which ovarian cysts grew and this ovarian granular cell was produced. He had reached the conclusion long ago that the nucleus, perhaps the nucleolus, in the formation of the cell was the first, and not the last element, and that the cell body followed. As to whether or not the body described by Dr. Drysdale should be called a cell, he had, long before Dr. Garrigues read his paper, reached the conclusion that it was the nucleus of a rapidly degenerating cell of the cyst membrane. Then coming to the action of reagents, or rather the lack of reaction, that fact of itself favored the view that it was a degenerated cell, and not, as Dr. Drysdale thought, an immature cell, because in immature or rapidly growing cells the protoplasm was especially prone to take on the action of staining agents, and to react promptly when treated with acetic acid. With reference to the ovarian cyst being derived from the Graafian follicle, he had thought his own observations, as well as those of recent authorities, seemed to prove that it had an origin independent, in the great majority of cases, of the Graafian follicle, and that it could be distinguished from it especially by its lining membrane. As to the aid this body, or Dr. Drysdale's corpuscle, could afford in making a diagnosis, he finally found his failures were so numerous that he was obliged to abandon it, notwithstanding the great success which attended his earlier examinations. From his own experience in the matter, he thought it must be accepted that the practical value of this body was, often at least, immaterial. He had found in cysts of the omentum and mesentery, and also in a multilocular cyst of the spleen, cells which could not be distinguished from Dr. Drysdale's corpuscle. However, he was prepared to go back and study the field over again in view of the positive statements made by Dr. Drysdale, and hoped that the results of further investigation might be confirmatory of Dr. Drysdale's views.

Dr. ENGELMANN, of St. Louis, had been unable to see the cell as Dr. Drysdale had seen it, and therefore had not been able to avail himself of the aid which it was said to afford in making a diagnosis.

Dr. DRYSDALE said the definition of a cell he had used was that given by Carpenter, Max Schultze, and others, whom Mr. Thornton would recognize as eminent authorities. With regard to his cell being a nucleus, he would have said the same thing twenty years ago, but continued observation had convinced him that it was an aborted epithelial cell and not a nucleus. The fact that gentlemen had been unable to see the cell simply showed the fault of the observer. Concerning the cell being found in omental cysts, he once made a mistake in examining fluid from such a cyst, simply because he did not exercise sufficient care, and the neglect in that respect arose chiefly from the fact that other evidence of an ovarian tumor was so marked he did not attach any importance to microscopical examination. With reference to ovarian cysts originating elsewhere than in Graafian follicles, that was merely a difference of opinion.

THE MECHANICAL THERAPEUTICS OF VERSIONS AND FLEXIONS OF THE UTERUS.

—Dr. E. VAN DE WARKER, of Syracuse, N. Y., read a paper on this subject. He maintained that no department of gynecology had aroused a greater inventive activity, or excited greater interest, and yet the solution of the mechanical problems involved had not been advanced, and the question of utility had by no means been settled. He believed that uncertainty resulted from expecting too much from the use of the pessary, and from selecting an improper instrument. The latter came from lack of clearly defined ideas concerning the absolute limitations imposed upon the action of pessaries, which must govern the results to be expected.

In studying the mechanical principles involved in the theory of the pessary, two things must be clearly defined: first, the limits imposed by the uterus and its appendages upon the mechanical agencies acting upon it, and, second, the action of the mechanical forces under these limitations. These limits in their mechanical and uterine relations were fixed and absolute. One was, however, reluctantly forced to conclude that the majority of pessaries were invented either in ignorance or in defiance of these limits, and as if the only restriction upon their action were that of gravity.

The correction of a flexion or version of the uterus mechanically, with certainty, comfort, and safety to the patient, depended upon the following fixed conditions, which could not be violated: first, the limits imposed by uterine mobility; second, the limits imposed upon the action of pessaries by the vagina; third, a pessary must be adjusted with proper regard for the safety of the pelvic soft parts; and, fourth, a pessary must be so adjusted as not in any way to retard or arrest the function of any pelvic organ, nerve, or vessel.

These were considered in order, and the text was illustrated with several tracings taken by the mercurial manometer, showing the change in position of the uterus during respiration, forced respiration, coughing, talking, walking, etc.

Dr. Van de Warker classified version and flexion pessaries into three groups:

1. Those combined with support external to the body: (*a*) simple intra-vaginal with external support; (*b*) a pessary acting by mechanical displacement with support external to the body; (*c*) combination of absolute fixation of the cervix with external support.

2. Pessaries acting wholly intravaginally: (*a*) acting by displacement; (*b*) those that moved the vaginal cervix by action of the vaginal walls in a direction opposite to the movement of version of the fundus; (*c*) those which retained the vaginal cervix in a fixed position, and thus prevented rotation of the uterus.

3. Pessaries acting within the body of the uterus—intra-uterine stems: (*a*) intra-uterine stems with support external to the body; (*b*) those combined with various forms of vaginal pessary; (*c*) self-retaining intra-uterine stems; (*d*) diverticulating intra-uterine stems; (*e*) stems with simple vaginal attachment necessary for retention.

The paper was extensively illustrated, and contained an historical part.

Dr. H. F. CAMPBELL, of Augusta, Ga., disliked the term "fitting a pessary" in any sense of the close application of a thing to the thing containing it. If a pessary were so introduced as to fit, it would be constantly producing the very condition which Dr. Van de Warker had very properly called abnormal—namely, fixation of the womb. He regarded a pessary as a crutch for a too heavy womb and a weakened state of the ligaments, and it should be regarded as a crutch to be worn during the day, and laid aside during the night. With regard to the stem pessary, it was simply a splint for a broken womb. He agreed with Dr.

Van de Warker that there was no form of vaginal appliance which could ever straighten a flexed womb, because it was a distorted womb, and, just like a broken arm, required a splint to hold it in position until it could get well. The stem was not injurious if the woman was treated properly. Of course, there were inflammatory conditions which preceded, accompanied, and resulted from uterine displacements, and those must be treated according to circumstances.

Dr. H. P. C. Wilson, of Baltimore, thought that the mechanical treatment of a displaced uterus was a matter of experiment from beginning to end. It was impossible to determine, without trial, what kind of an instrument would be required to keep the uterus in its proper position. In the use of pessaries he had observed one practical rule, and that was, after introducing an instrument, to pass his finger between it and the vaginal wall, and, if it passed freely, he was satisfied that the pessary would do no harm. In certain cases it might be necessary to use an instrument larger than our judgment would select, perhaps to overcome adhesions, etc., but such instruments must be watched very carefully. No instrument which rendered the uterus fixed was, as a rule, a proper one to be used. Neither should any pessary be allowed to remain in the vagina if it was at all uncomfortable to the woman; she should never realize that she was wearing a pessary, and, if she did, it was evidence that there was something wrong about it.

Dr. P. F. MUNDÉ, of New York, believed that anterior displacements, as a rule, did not demand mechanical treatment by means of intra-vaginal pessaries, with or without abdominal support, unless there was combined with the displacement, whether anteversion or ante flexion, a certain amount of sinking of the uterus, attended by dragging upon the uterine ligaments and pressure upon the bladder. Whenever there was such a forward displacement combined with the sinking, the uterus required treatment. In such cases symptoms were developed, and the patient obtained relief from the use of a support. He differed with Dr. Campbell and Dr. Van de Warker in the statement that it was impossible to raise the fundus in cases of anterior displacement without resorting to the stem pessary. He also did not regard the stem pessary exactly as the President did—that is, as “an invention of the evil one”—for he had seen cases in which the stem did very well. It was, however, a useful instrument to watch, as Dr. Goodell had once said. He believed that by the use of Thomas's cup pessary the fundus could be gradually raised, little by little, until the uterus was nearly or quite straight. He had had two cases to prove this. As a rule, however, it was necessary, in order to straighten an ante flexed uterus, to introduce a stem pessary; whether the patient was cured by that method of treatment was quite another thing. If the patients could endure the stem pessary they would be benefited; but the risks were fully equal to the prospects of relief. He thought that Thomas's cup pessary raised the entire womb as much as it did the fundus, and in that way gave relief. As to retro-displacements, if he could secure as good success in treating some of them as he had obtained in treating anterior displacements, he would consider that he had made a good step in the mechanical treatment of uterine diseases. Hodge's pessary, perhaps, answered as well as any for uncomplicated cases of retroversion, but he had been looking for an instrument which would hold up the fundus in cases of chronic retroversion with impaction or retro flexion of a flabby uterus. There were some cases in which columning the vagina, as it had been called, was of considerable service. He thought the failures were about equal to the successes in resorting to

the genu-pectoral position brought forward by Dr. Campbell. In a certain number of cases he had used Dr. Ephraim Cutter's vaginal pessary with an external band with considerable benefit. In this respect he had changed his views somewhat from that expressed in his book.

Dr. G. H. LYMAN, of Boston, thought we were apt to forget that the uterus was a movable body. The reason why so many pessaries had been invented was that one had not yet been found which met the indications in every case, and such an instrument could not be devised, because there were no two cases which were alike. He believed that the entire subject involved the study of the pathology of displacements, and that the pessary constituted the smallest part of the treatment. In a very large proportion of cases the displacement depended upon cellulitis, as had been pointed out by the President many years ago; a condition which must be treated first, and, when it was necessary to use a pessary, every man should make his own instrument. He had never invented one, but usually used Hodge's, because it could be turned and twisted to suit the indications of each case. To determine what it was that kept the uterus in a position of displacement was the important thing, and when that condition had been removed, the uterus could be held in its proper position without difficulty. He wished that the word pessary was dropped from our nomenclature.

Dr. VAN DE WARKER regarded the expression "fitting a pessary" as appropriate as the term "fitting a shoe," and used it because none other expressed exactly what was meant. His experience confirmed Dr. Campbell's, that the only method of straightening a flexed uterus was by means of an intra-uterine stem pessary; and, if the patient was treated properly, and the instrument was adjusted properly, it was not dangerous. But the woman must understand that she was constantly under treatment. He thought Dr. Wilson's rule was not entirely safe, because it did not give sufficient room for the pessary, and that it left the liability to injury on account of the expulsive forces in the pelvic cavity. He believed that the action of the instrument must be studied apart from the pathology or etiology, and as much so as the action of castor-oil or opium separately from the pathological conditions for which they were to be administered.

The following papers were read by title: "A New Operation for Ruptured Perinæum," by Dr. J. C. WARREN, of Boston; "Measurements of the Uterine Cavity in Childbed," by Dr. W. L. RICHARDSON, of Boston.

The following officers were elected for the ensuing year: *President*—Dr. GILMAN KIMBALL, of Lowell, Mass. *Vice-Presidents*—Dr. ALBERT H. SMITH, of Philadelphia, and Dr. THEOPHILUS PARVIN, of Indianapolis. *Council*—Dr. JOHN BYRNE, of Brooklyn; Dr. W. T. HOWARD, of Baltimore; Dr. A. REEVES JACKSON, of Chicago; and Dr. H. F. CAMPBELL, of Augusta, Ga. *Secretary*—Dr. FRANK P. FOSTER, of New York. *Treasurer*—Dr. PAUL F. MUNDÉ, of New York.

Dr. MATTHEW D. MANN, of Buffalo, N. Y., and Dr. W. H. BAKER, of Boston, were elected members; and Mr. J. KNOWSLEY THORNTON and Mr. LAWSON TAIT, of England, honorary members.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

A REGULAR meeting was held September 7, 1882, Dr. J. SOLIS COHEN, Vice-President, in the chair.

CARCINOMA MAMMÆ.—Dr. C. B. NANCREDE related the case for Dr. Charles Wirgman. Mrs. Josephine M., aged forty-eight years, married at twenty-three, the mother of three children, the last born sixteen years ago, had nursed all her children, but the last died from marasmus, owing to the small amount of milk the mother had, although lactation was free after the first two confinements. She never had had any abscess of the breast, or any traumatism or eczema of the nipples, although she had always experienced pain and uneasiness in the right breast when nursing. There was no trace of carcinoma in the family history. A sister had had an enchondroma of one of the metacarpal bones. When young, the patient had suffered from dyspepsia, and on one occasion had had an attack of hæmoptysis. Of late years Mrs. M. had grown very stout, although never robust or strong. About the middle of June, 1882, she first noticed a lump in her right breast at its upper inner quadrant, of about the size of a hen's egg. A few nights previously she had been awakened by a severe lancinating pain in the right breast; but, experiencing no further inconvenience, she paid no attention to it. The mass did not seem to grow till handled and an exploring needle had been inserted, when the growth became softer, much larger, and painful, and the skin and superjacent veins rapidly showed marked changes. I saw her August 6, 1882, with Drs. Wirgman and Hearn, when the only additional points to be noted were, that the growth was freely movable with the breast upon the chest walls and that a mass of the size of a pigeon's egg could be felt in the axilla under the outer margin or the pectoralis major muscle. Dr. Wirgman removed the whole breast by two semicircular incisions, opened up the axilla, and removed all the glands up to the clavicle. This operation again emphasizes what Dr. S. W. Gross has specially insisted upon—viz., that, although the axillary glands may appear before operation uninvolved, yet when the axilla is opened numbers are often found enlarged. This accords with my own repeated experience. Although slow in healing, the case has done well since operation.

This case presents special points of interest which I shall now dilate upon. In the first place, its history and appearance were eminently suggestive of a rapidly forming sarcoma, which was either cystic, or, what at once suggested itself to me before etherization, one into whose substance hæmorrhage had occurred. Upon careful examination under ether, the discovery of the enlarged gland at once suggested the strong improbability of sarcoma, which view I abandoned. After the removal, the macroscopic appearances once more threw doubt on the diagnosis, as there was, for at least one half, if not more, of the circumference of the growth, a distinct *appearance of a capsule*, and, as I had surmised, the tumor had been broken down by a hæmorrhage into its substance. Subjected to microscopic examination, the specimen was again puzzling, since sections of the first pieces imbedded showed in every portion of their extent—with a few very slight exceptions—small spindle cells of a connective-tissue type. Dissatisfied, I imbedded a second piece, sections of which revealed a typical carcinoma of the soft variety. This again illustrates what I have many times insisted upon in this society—viz., that either very large sections of growths should be made, as Dr. Seiler advocates, or sections from several and varied portions of the morbid mass should always be carefully examined.

Dr. TYSON said that the presence of a capsule seemed to be clearly demonstrated.

RECURRING CARCINOMA OF THE MAMMA AND AXILLARY GLANDS.—This case also was presented by Dr. NANCYREDE. The patient, Mrs. F., aged thirty-seven years, from whom the specimens were removed before the discovery of the primary tumor, about eighteen months back, was in perfect health, although from pecuniary losses she had undergone much mental anxiety since the Chicago fire. Hearing a vivid account from a friend of another case of carcinoma mammae, her mind became deeply impressed, and shortly after she discovered a growth in the upper inner quadrant of the left breast, which continued to grow until it had attained at the time of the first operation to the bulk of a small orange—viz., one year after her first discovering it. She lost much flesh from the time of the discovery of the growth; she had never suffered from any form of traumatism; had had no eczema of the nipple; and, although she had borne one child a number of years back, and had suckled it, had never had sore nipples. There was nothing which could be fairly construed as an hereditary history of carcinoma. The primary operation had consisted in a removal of part of the breast. In less than two months after this a small nodule appeared in the cicatrix, while the axillary glands began to enlarge rapidly. On July 8, 1882, I saw her in consultation with Drs. R. R. Taylor and Harlow, when I found that there was a small nodule in the middle of the original cicatrix, while the axilla was occupied by the mass of indurated glands which I here present. The growth partially embraced the axillary artery, since, when the former was compressed, the radial pulse was decidedly affected. Not being allowed to remove the whole breast, I freely excised the whole growth, next the recurrent growth, and, after a tedious dissection, removed the axillary tumor, laying bare the artery and vein for a space of over an inch, clearing everything out to the clavicle, and distinctly recognizing the coracoid process of the scapula. Although this is not the place for a clinical discussion, I can not refrain from emphasizing the importance of the thoroughness with which this axillary dissection should be performed. Not a single gland should be left, enlarged or not. Properly conducted, there is hardly any hæmorrhage, a vessel rarely requiring ligature. This case was treated on Listerian principles, but with a spray of acetate of aluminium, and the wound was dressed with the same. There was no inflammation, heat, pain, or subsequent induration, and, if I remember rightly, the case required but five dressings, until the wound became superficial, and fewer would have been necessary had perfect coaptation been secured. One or two points, where stitches made marked tension, showed a surrounding skin blush, which disappeared on the removal of the stitch. Immediately contiguous to this the wound-edge looked as if made but a few minutes before, thus showing that the irritation of *tension* was the trouble, which, as before said, very rapidly disappeared when the deeply imbedded stitch was cut. The temperature rose to 100.2° Fahr. at the end of the first twenty-four hours, after which it remained under 100°. The pain after the removal of the pressure of the button-stitches amounted practically to nothing, according to the patient's own statements, and it will be remembered that she had the experience of a former operation for comparison. I believe that this is the first case where acetate of aluminium has been used in this city in a Listerian operation, and its success disposes of the absurd statement that carbolic acid *is* Listerism.

CARCINOMA OF THE STOMACH.—The case was presented by Dr. J. H. MUSSER. The clinical aspects of this case were so definite that when the man applied to

the medical dispensary of the Hospital of the University of Pennsylvania for treatment, early in April of this year, it was without difficulty that malignant disease was diagnosticated. He was a farmer, of good habits, fifty-three years old, and previously in good health. For the last six months he had suffered from "weakness of the stomach" and general debility, which prevented him from working. He had lost much flesh, and had constantly a severe sickening pain in the epigastrium, extending to the upper part of the lumbar region, which became much worse within an hour after eating. The appetite was poor, the tongue clean and pale, the bowels constipated, with troublesome flatulence. A tender, non-pulsatile, movable tumor extended across the epigastrium from the margins of the ribs on one side to a similar site on the other, one inch and a half above the umbilicus. He presented an anæmic, cachectic appearance. Dr. H. Plank, of Morgantown, took charge of the patient, and wrote me, April 21, 1882, that he was much benefited by the treatment instituted, but was confined to bed by sheer exhaustion. June 5th the doctor reported increased weakness and emaciation, and that the pain had extended along the left side to the same shoulder. He took but little nourishment, and on June 10th he commenced vomiting undigested food, mucus, and grumous purulent matter. He died June 20th, of exhaustion, after a nine-months illness.

Dr. Plank kindly sent me the specimen I here present. One fourth of the pyloric end of the stomach is involved in the growth, which extends along the greater curvature for four inches, along the lesser two inches, and completely encircles the organ. The stomach walls in front of the disease were dilated, the muscular coat being hypertrophied, and the mucous membrane congested. The mass encroached upon the caliber of the viscus so as almost to occlude it. The tumor consisted of three nodules, one of which was ulcerated on its mucous surface, and presented the appearance of a scirrhus. The glands in the lesser omentum were diseased.

SPINDLE-CELLED SARCOMA OF THE THIGH.—The specimen was presented by Dr. J. HENRY C. SIMES. The patient from whom this specimen was removed presented himself for admission to the Episcopal Hospital on August 30, 1882. He was sixty years old, an Irishman, and gave the following history: Two years ago he first noticed at the lower and outer part of the thigh a small swelling, which grew rapidly to the size of a hen's egg, when it was removed. Shortly after the wound had healed a second tumor was noticed in the cicatrix, having the same character as the growth previously removed. This was also removed by operation; and again, in a still shorter interval, a third similar growth was developed in the same locality, which was also removed by the knife. When admitted to my wards, there was found, upon examination, at the lower and outer part of the thigh, a linear cicatrix about two inches long, beneath and adherent to which, as well as to the surrounding integument, was seen a tumor as large as a walnut, movable upon the deeper tissues, painless, dense, and irregularly nodular. There was no glandular enlargement observable. No other tumors were present. The tumor was readily removed, being adherent only to the overlying skin, which is included in the incisions. Microscopic examinations showed that the neoplasm consisted entirely of large spindle-shaped cells, which contained large oval nuclei.

A REGULAR meeting was held October 26, 1882, Dr. JAMES TYSON, President, in the chair.

HYPERTROPHY OF THE PROSTATE GLAND, ACCOMPANIED BY PROFUSE AND

FATAL HÆMORRHAGE.—Presented by Dr. J. B. ROBERTS for Dr. J. M. ADLER and Dr. WILLIAM HUNT. The clinical history furnished by Dr. Adler is as follows: The patient, aged sixty-six years, of medium size, weighing one hundred and fifty pounds, of regular habits, had enjoyed good health until within a year past. On a number of occasions during the past year he has had slight hæmaturia. He passed his urine with ease, and only complained of slight perineal pain. On the 12th of September last he arose in the morning in his usual health, but soon after breakfast he was attacked with sudden, acute pain in the bladder, which he was unable to empty. Dr. Adler saw him in a short time, when the patient complained of great hypogastric pain, and was much prostrated, with a blanched, sallow, cold skin, and a rapid and feeble pulse. A well-defined pyriform swelling occupied the hypogastric region, extending upward to the umbilicus. After stimulants and morphia had been given, about one pint of fluid blood was drawn off by the catheter, after which, this instrument becoming blocked, a double one was introduced, by means of which injections of warm water were thrown into the bladder, and another pint of broken-down coagula was removed. A solution of alun, twenty grains to the pint, was then introduced into the bladder and allowed to remain. Despite the internal use of *ol. terebinth.* and *ol. erigeron.*, with opium suppositories, the hæmorrhage continued, necessitating recourse to the catheter, injections, etc., to free the bladder from coagula. Death ensued on the sixth day, from exhaustion induced by the repeated hæmorrhages. The diagnosis arrived at by Drs. Hunt and Adler was carcinoma of the neck of the bladder.

Sectio Cadaveris.—The autopsy was a partial one, made in the undertaking establishment. Upon incising the hypogastrium, the distended bladder was at once seen, containing nearly a pint of clotted blood. This was removed by the hand through an opening in the viscus, when Dr. Roberts felt near the vesical neck, protruding into its interior, a pear-shaped mass of about the size and shape of the adult uterus. This, as the members of the society saw, was evidently a greatly enlarged middle lobe of the prostate gland covered by unaltered mucous membrane. The lateral lobes were also enlarged. The mucous lining of the viscus was smooth and congested, presenting at one point two small circular depressions, with cleanly cut edges. Owing to circumstances, no further examination of the body was made.

Dr. ESKRIDGE inquired whether the blood removed from the bladder at the autopsy presented a urinous odor. He had treated recently an interesting case of recurring hæmaturia, supposed to be due to a varicose condition of the veins of the vesical neck. The patient was a man aged seventy-seven years, who five years ago, and at intervals since, had lost considerable blood. The former attacks had yielded readily to ergot, but shortly after the onset of the last one Dr. Eskridge had found the bladder distended with a large clot, which he had been unable to break down by injections of either alkaline or acid solutions. The secretion of urine was suppressed during the last twenty-four hours of the patient's illness, the blood drawn from the bladder presenting no characteristic odor. The man died apparently from uræmia, two or more severe chills preceding death, although no convulsions occurred, and he remained conscious to the last. Unfortunately, no post-mortem examination was obtained.

Dr. FORMAD thought that the growth resembled rather a sarcoma than a carcinoma. He had seen two instances of round-celled sarcoma of the prostate. All growths starting from the epithelia of the genito-urinary tract, as well as

from the cavity of the uterus, the kidneys, and supra-renal bodies—in short, growths of all the organs arising from the middle layer of the blastoderm, macroscopically resemble sarcoma, and usually prove to be such when microscopically examined.

Dr. TYSON said that this specimen possessed a special interest for him, inasmuch as he had had his attention forcibly directed to the differential diagnosis of a simple hypertrophy of the prostate from malignant disease of that organ, by having lately under his care a gentleman to whom ergot at first proved of much benefit, but in whose case the catheter was soon demanded. This instrument was used with unusual skill and gentleness by the patient himself, notwithstanding which blood occasionally followed its use. Exceedingly severe pains next developed, radiating from the bladder to the testicles, groins, and inner aspects of the thighs. Emaciation soon set in, and he died at the end of fifteen months. At the autopsy malignant disease of the prostate was found, involving by infiltration the lateral aspects of the bladder and the neighboring parts, so as to compress the nerves, thus accounting for the radiating pains complained of. He would like to know from Dr. Roberts whether his case presented this symptom of radiating pains, and also the source of the hæmorrhage, as the smooth surface of the growth and the healthy condition of the mucous membrane of the bladder were such as to excite surprise.

Dr. ROBERTS, in reply to the various questions propounded, said that, only having made the post-mortem examination, he knew nothing beyond the facts given in the notes read. As to the source of hæmorrhage, he would call attention to the two small erosions of the mucous membrane of the bladder as the probable source.

Report of the Committee on Morbid Growths.—The specimen presented by Dr. Roberts, upon microscopic examination, is found to consist of the histological elements composing the prostate gland. There is no evidence of any neoplasm, except a numerical hypertrophy of the structures of the organ. The specimen is a hypertrophic prostate gland.

CASEOUS DEGENERATION OF THE KIDNEYS.—Presented by Dr. J. B. ROBERTS for Dr. DUNMIRE. Owing to Dr. Dunmire not having seen the woman until within a few hours of death, the history is of necessity imperfect. She was a married woman, thirty-nine years old, whose husband is said to have infected her with some form of venereal disease. The husband had been dead for about one year when the patient first came under treatment. There were no evidences of syphilis, so that the supposed venereal affection of the past had been presumably gonorrhœa. When seen, September 14, 1882, she was exceedingly ill; she gave a history of general ill health for the past few years, but dated the present trouble some weeks back, when she had bathed in the surf while menstruating. This was followed by a chill, since when she had steadily grown worse. When Dr. Dunmire saw her she complained of sore throat, difficult deglutition, anorexia, sick stomach, pain in the back, with sharp pain running toward the groin, especially on the right side, tenderness over the abdomen, and frequent scanty micturition. The pulse was 140, the temperature 103° F., and there was profuse leucorrhœa. An unfavorable prognosis was given, which was soon verified by her becoming unconscious; and she died six hours later.

Autopsy.—The abdomen alone was allowed to be examined. All the organs were healthy except the kidneys and bladder. The latter contained a little urine and mucus, its walls were much thickened, and its lining membrane was congested.

The left kidney had little true kidney structure left, and was converted into a group of seven or eight cysts, containing a white cheesy material, of a moderately firm consistence. The ureter was much dilated and thickened for about three inches from the pelvis of the kidney. The right kidney was normal in outline, but when incised revealed one large cyst with creamy contents, and also another small cavity containing a few minute calculi. Several of these could be felt through the walls of the normal ureter, thus accounting for the ante-mortem renal colic. The circum-renal structures were unchanged, as well as the capsules of the kidneys, although these latter were perhaps more adherent than normal.

LYMPHOMATOUS TUMOR OF THE MEDIASTINUM.—Exhibited by Dr. W. S. LITTLE for Dr. G. C. SMITH, of Rondout, N. Y. The history of the patient from whom these specimens were removed is in brief as follows: A young man, aged twenty-four years, had been but a few days under Dr. Smith's care, having come from Boston, where his physician had pronounced him phthisical, and had recommended a sea voyage. During the past few months small nodular masses had developed in the muscular tissue of the right chest-walls near the median line in front, and also posteriorly. The axillary and supra-clavicular glands were involved. Shortly after Dr. Smith first saw him he developed marked dyspnoea, and died suddenly, without any evidences of marked lung disease, except, perhaps, some symptoms of pleuritis. There was apparently mitral disease. Anasarca, especially of the lower extremities, gradually developed.

Secitio Cadaveris.—The skin was hard and friable; nodular masses were found disseminated through the muscular tissue of the chest-walls, which had undergone some species of degeneration; the costal cartilages presented evidences of a degeneration similar to that seen in the muscles. On removing the sternum, the subjacent tissues were markedly pigmented, and the anterior mediastinum was completely obliterated by a mass of the size and shape of the half of a large lemon, which pressed against the heart. The large bronchi were involved in the growth; otherwise the lungs seemed healthy, and evidences of slight pleurisy were found. The pneumogastric nerves were both involved, chiefly the left, and, on further dissection, the disease was found to occupy all of the lower part of the posterior mediastinum, involving the contiguous osseous tissues. The nerve involvement explained the sudden death. The diaphragm was also involved in the lower portion of the growth. The four portions of the growths shown to the society are: 1. One of the subcutaneous nodules. 2. A small portion of left lung near its root. 3. A portion of the anterior mediastinal growth, with part of the trachea, bronchi, and aorta. 4. One quarter of the tumor, which, involving the diaphragm, projected from the left thoracic wall into the chest-cavity. The growths were considered to be carcinomatous by those present at the post-mortem examination.

Dr. FORMAN inquired whether there were any other evidences of cancer in the remainder of the body.

Dr. LITTLE replied that none were detected.

Dr. FORMAN then said that he was unaware of any specimen of primary carcinoma of the mediastinum on record, and moved the reference of the specimen to the Committee on Morbid Growths, as it was probably a sarcoma.

Report of the Committee on Morbid Growths.—The mediastinal growths are found, on microscopical examination, to consist of a mass of hypertrophic lymph glands, much pigmented. There are also seen adipose and fibrous tissues in a state of active proliferation.

CIRRHOSIS OF THE LIVER IN THE STAGE OF ENLARGEMENT—Exhibited by Dr. E. T. BRUEN. T. W., aged twenty years, colored, has worked on a farm since boyhood, and has been much exposed to the weather. His habits were temperate; he was free from either syphilitic or malarial taints. His father is still alive; the mother died of phthisis. He was never robust, but had had only one severe illness, viz.: typhoid fever, from which he convalesced perfectly; but he readily "took cold." He was first seen by Dr. Bruen at the University Hospital in January, 1882, when he gave the following history: The abdomen began to swell two years ago, with neither pain nor tenderness. He was obliged to rise at night to urinate. The abdominal swelling increased, and the previously regular bowels became constipated. Occasional sharp, shooting pains were felt across the chest when lifting weights or working hard, and also slight dull pains over the liver, lasting for a few moments only. When seen, the abdomen measured fifty inches. On January 19th he was tapped, nineteen quarts of fluid being removed, rendering plain a much enlarged liver, covered with smooth, nodular elevations, with the apex beat of the heart displaced upward into the fourth interspace. March 18th five gallons more of fluid were removed, after which pleural and bronchial complications arose, which soon subsided. May 6th paracentesis by capillary needle was resorted to, which was followed by much localized tenderness around the site of the punctures. Symptoms of peritonitis developed next day, which terminated life the same evening. During life the diagnosis was most difficult and interesting. The enormous size of the liver, the palpable bosselation of its surface, giving a sensation like that of crepitating tissue, as though fluid lymph had been thrown out, and finally his abstemious habits, with absence of either syphilitic or malarial taint, suggested malignant disease. His age, the excessive rarity of primary carcinoma or sarcoma of the liver, with his family history, all negatived this view. He had had some dyspepsia. Enlargement of the liver, connected with catarrh of the bile ducts, would have presented symptoms of jaundice and intermitting temperature, terminating by death from cholesteræmia. The case, then, was one of simple cirrhosis.

Section Cadaveris.—The abdomen contained six gallons of purulent fluid. Both the parietal and the visceral peritonæum were covered with a thick coating of inflammatory lymph, tinged with blood, from multiple capillary hæmorrhages. The abdominal veins were all replete with blood. The liver weighed nearly five and a half pounds, was of a nutmeg appearance on section, was indurated, and presented a bosselated, nodular appearance. The gall-bladder was thickened, and contracted about two thirds in bulk. The bile ducts were normal. The spleen was covered by a pseudo-cartilaginous capsule, but was otherwise normal, as were also the stomach, pancreas, intestines, kidneys, and supra-renal bodies. The abdominal lymphatic glands were slightly enlarged.

Dr. SEILER remarked that, having seen the case during life, it was almost impossible to divest one's self of the idea of malignant disease. He thought that the projections were the unaltered portions of the liver, which had been compressed and squeezed out by the contracting interstitial tissue. — Dr. BRUEN remarked upon the obscurity of the etiology. — Dr. TYSON asked Dr. FORMAD, who had examined the specimen microscopically, whether he considered it to be in the first or second stage of the affection. — Dr. FORMAD replied that he considered it to be in the commencing second stage, and detailed the microscopical appearances.

Dr. TYSON, after briefly adverting to the causation of cirrhosis, said that his

reason for asking Dr. Formad whether he considered that the organ was in the first or second stage of cirrhosis was that, some few years since, an important insurance case had been argued in our courts, where the defense was set up that the man had not a cirrhotic liver because it was enlarged. For his part, he had no doubt that a liver could be in the second stage of cirrhosis and yet be enlarged; there might be enlargement from fatty infiltration, concurrent with interstitial inflammation.

A REGULAR meeting was held Thursday, November 9, 1882, Dr. JAMES TYSON, President, in the chair.

MYXOMATOUS TUMOR OF THE POSTERIOR CERVICAL REGION.—Presented by Dr. NANCREDE for Dr. W. G. MACCONNELL. The tumor was removed by Dr. J. H. Brinton, at the Jefferson College Hospital clinic, some ten days since. The patient was a little boy aged four years, whose parents had first noticed the growth about two years ago. Latterly it had grown with considerable rapidity. It was of firm consistence, lobulated, and movable beneath the skin, giving the impression that it was a fibrous tumor. After removal, in addition to the above-mentioned characteristics, it was found surrounded by a capsule, and, on section, looked somewhat suggestive of myxoma; still it was thought by some to be merely a fatty tumor containing more fibrous tissue than usual.

Microscopic Examination by Dr. MacConnell.—Upon examining a frozen section stained with iodine, meshes of capillaries are seen, in the walls of which the endothelial cells composing the vessels can be distinctly seen. The aforesaid meshes contain the mucoid structure, traversed by large, pale fusiform cells, the processes of which anastomose with each other. In addition, many leucocytes are seen, and, intersecting the growth in every direction, numerous yellow elastic fibers are readily distinguished.

When presenting the specimen, Dr. NANCREDE commented on the rarity of such growths.

Dr. S. W. GROSS said he had himself presented several gelatinous polypi of the nose a number of years ago, which were most characteristic examples of myxomatous tissue. He could also recall a specimen of subcutaneous myxoma of the forearm, as well as the hamatoid myxoma of the breast referred to by Dr. Nancrede. He was disposed to consider it the rarest of all neoplasms of the breast; indeed, he had never personally met with one, and, when preparing his work on tumors of the breast, he had written to numerous surgeons throughout the country, who all replied that they had never met with one affecting the breast.

Dr. FORMAD remarked that he had exhibited a myxomatous fibroma of the labium some years since, and said that the peculiar milky appearance assumed by the fluid when such growths were thrown into alcohol was a good diagnostic point.

Dr. SHAKESPEARE said that his personal experience as to the rarity coincided with that of Dr. Gross. This specimen is one of the rarest forms, as most of the fibrillæ consist of yellow elastic tissue. The rarity of myxomatous tumors seems to him to have much bearing on the views of Cohnheim and others as to the etiology of tumors. The observers insist that all tumors spring from the remains of fetal tissues not made use of in tissue construction, which remain dormant in their embryonal condition until subjected to some irritation, when they develop into the various neoplasms. Now, tissue practically identical with that found in myxomata pervades the fœtus. How, then, is it that portions of this do

not remain to give rise to myxomata? On the contrary, myxomata are among the rarest of the neoplasms.

SPECIMENS FROM A MAN WHO DIED WITH BRAIN, LUNG, HEART, LIVER, SPLEEN, KIDNEY, AND BLADDER LESIONS.—Presented by Dr. J. T. ESKRIDGE. The specimens showing the above-mentioned lesions were removed from the body of a man aged sixty-eight years. The patient had become deaf in the right ear thirty years before, while suffering from some brain disturbance. Attacks of jaundice with gradually increasing permanent discoloration of the skin had extended over a period of ten years. Since the early part of the year 1877 he had complained of incontinence of urine, an oppressed feeling over the hepatic region, dropsy in the feet and face, and a gradual loss of flesh and strength. The two years preceding his death he had been unable to work, but was only confined to bed five days. During the latter period his symptoms were, in the order in which they were developed—great prostration, scanty secretion of urine, blindness for twenty-four hours preceding repeated convulsions, loss of speech, and almost total inability to swallow, although consciousness was preserved until coma ushered in the death scene. His temperature (axillary) did not rise above 100.5° F. The surface head-temperature nearly equaled that of the axilla. No paralysis of the muscles of the face or extremities preceded death. The liver during life did not appear to be enlarged or altered in its outline.

The *post-mortem examination* revealed: in the brain, engorgement of the veins, with some effusion, slight pia-mater inflammation in the neighborhood of the fissure of Rolando, apparent degenerative changes in the left island of Reil and anterior portion of the left temporo-sphenoidal lobe; in the pleura and lungs, old and numerous pleuritic adhesions, lobular and vesicular emphysema of the lungs, congestion of both lower lobes, and a nodule (probably cancerous) of the left apex; in the heart, fatty degeneration, dilated right ventricle, and incompetent mitral valves from ossific change; in the liver, multiple cancer without an increase in size or a nodular condition of the organ; in the spleen, marked increase of fibrous tissue, and atrophy of the gland to one half or less its normal size; in the kidneys and ureters, the last stages of pyo-nephrosis, the glandular tissue being nearly all destroyed, the pelves as large as a good-sized orange, and the ureters dilated so as to admit a man's thumb; in the bladder, great hypertrophy of the mucous membrane, and decrease of the capacity of the viscus.

PRIMARY CARCINOMA OF PANCREAS AND LIVER.—Presented by Dr. E. T. BRUEN. The interesting features pertaining to this case are the age of the patient—twenty-four years—and the rapidity of the abnormal processes. These rendered the diagnosis of malignant disease doubtful, until the appearance of nodular tumors in the liver. The family history was free from hereditary disease. The commencement of the disease dated from September, 1881; death occurred on the 15th of January, 1882. At first the symptoms related solely to the digestive tract, such as dull and heavy sensation after eating, with acid eructations and occasional vomiting. Subsequently sharp, cramp-like pains in the abdomen were a prominent symptom. After the lapse of a week there commenced general itching, and two weeks later the skin became yellow. This yellowness and itching never disappeared during the history of the case. At the autopsy the gall-duct was obstructed by the enlarged head of the pancreas, so that extreme dilatation of the gall-bladder had ensued. This was probably the cause of the jaundice, and not the liver disease itself. The bowels were regular, and

the appetite good when first seen. The case then presented evidences of partial obstruction of the gall-duct, with digestive disorder, but without the symptoms characteristic of malignant disease of the stomach or bowels. By the middle of December, 1881, the liver dullness extended from the fourth interspace to three inches below the ribs in the nipple line; from the ensiform cartilage the line of dullness extended to within one inch of the umbilicus. The hepatic region was tender on pressure, especially over the epigastrium. The patient complained about this time of dull pain over the liver, with griping pain in the abdomen. The pulse was seventy-six to the minute. He had lost four pounds since admission, and looked thin. About this time a small inequality was noticed on the surface of the liver, three inches above and a little to the inner side of the umbilicus. The spleen was enlarged. By January 7th the bosselation of the liver became distinct, and the enlarged gall-bladder, rendered irregular by gall-stones, presented a slowly increasing, elastic, tender tumor, situated to the right of the epigastrium and umbilicus. By January 12th the pulse became rapid—130 a minute—the patient rapidly failed, and death occurred January 15th.

Autopsy.—The pancreas was enlarged to double its size, the growth chiefly occupying its head, and compressing the common bile-duct. Microscopic examination showed it to be scirrhus carcinoma. The liver was thickly studded with nodules of medullary carcinoma, explaining the ante-mortem bosselated feel of the organ. The gall-bladder was distended to twice its normal size, and contained a number of gall-stones.

Remarks.—The duodenal end of the organ, as is usual, was the seat of the disease. In a paper on thirty-nine cases of primary carcinoma of the pancreas, in "St. Bartholomew's Hospital Report" for 1881, jaundice is stated to be always present, while in twenty-four cases of secondary carcinoma this symptom was noted in but seven cases. This is presumably from the secondary growth occurring in some other portion of the organ than its head. Murchison says that the characteristic symptoms of carcinoma of the pancreas are pain in the pancreatic region, sensible tumor, and persistent jaundice. To these Dr. Bruen would add intestinal dyspepsia, which differs in some essential features from the dyspepsia of organic disease of the stomach.

Dr. MUSSER remarked that he could vouch for there being a distinct tumor of the pancreas, as he was present at the autopsy. The case had been under his observation in the dispensary one month prior to admission to the hospital. On account of the age, he was puzzled as to an exact diagnosis, although confident that the cause of the jaundice was obstruction. He noted, among other symptoms, the intense itching of the skin—a point of importance, Sims says, in the diagnosis of obstructive jaundice from that due to suppression. In five cases of tumor of the pancreas he had lately seen, all were accompanied by jaundice.

Dr. BRUEN called attention to the uncertainty of bosselation as a symptom of malignant disease of the liver. He had presented to this society, only two weeks since, a liver exemplifying this condition in a marked degree, where nothing beyond cirrhosis in the stage of enlargement existed. The occurrence of carcinoma of the liver at so early an age is unusual, although Dr. Pepper showed a specimen of the disease to this society, some years ago, occurring in an infant.

Dr. TYSON said that there were two points in this case of great interest to him: Firstly, jaundice in carcinoma of the pancreas, while it is a frequent symptom, is by no means an invariable symptom. Seven years ago he presented

to this society the specimens from a case of primary pancreatic carcinoma where no jaundice had been present, and six months ago he presented to the society a specimen of enlargement of the head of the pancreas, from a patient who also presented no symptoms of jaundice. Secondly, as to the diagnosis from cancer of the stomach, he had noted in his experience, as was mentioned in the history of Dr. Bruen's case, the absence of gastric symptoms. This negative symptom is of importance, since the tumor is often detected in precisely the same spot in both these diseases. The absence of gastric symptoms, with intestinal indigestion, irrespective of fatty diarrhœa, he considered the most reliable diagnostic points between carcinoma of the pancreas and of the stomach.

SPINDLE-CELLED SARCOMA OF THE SMALL INTESTINE.—Presented by Dr. W. A. EDWARDS. On September 23, 1882, I was asked to assist Dr. W. F. Atlee in the removal of an abdominal tumor. The patient, aged forty-eight years, whose menstruation had ceased at thirty-one years, first noticed the swelling in April last; on the day of operation she measured thirty-eight inches around the abdomen. The usual incision was made, and the tumor reached, when its surface was seen to be of a dark purple hue, with a network of large veins ramifying in every part of its serous covering. A trocar and cannula were introduced, but nothing but blood followed the withdrawal of the trocar. The sac was then torn open, and was emptied of its contents, of a soft, brain-like consistence. The growth was now turned out of the abdominal cavity. There was no distinct pedicle, but an attachment to the intestine of about the size of a half-dollar was seen. Dr. Atlee says: "When I emptied the sac of its soft contents, I examined carefully, with *extreme care*, the part fastened to the intestine, and my fingers passed into the intestinal tube." A silk cord was tied around the attached portion, and the remainder of the growth removed. The omentum was attached to the growth for a space of two inches; this was ligated and cut away, and the abdominal wound was closed.

Death occurred September 25th, at 4 A. M.

This growth sprang primarily from the submucous tissue of the small intestine, and grew with great rapidity, as the patient was only aware of its presence last April, and by September she measured, as above stated, thirty-eight inches. Microscopical examination of preparations taken from several portions of the growth clearly show it to be a spindle-celled sarcoma, and a most typical one at that. The small intestine is an unusual site for this neoplasm. So far as I am able to ascertain, there is no recorded instance of its occurrence in this situation. My friend, Dr. Formad, to whom I have shown the growth, concurs with me in this statement. On the day of operation I noted, as well as I could, the absence of all secondary deposits. The surrounding intestines and peritoneum were apparently normal, not even unduly hyperæmic. No post-mortem was permitted.

CHRONIC PARENCHYMATOUS NEPHRITIS COMPLICATING PHTHISIS PULMONALIS.—Presented by Dr. JAMES TYSON. My object in showing these kidneys is to illustrate the morbid anatomy of the renal complications which so frequently attend the later stages of phthisis pulmonalis. It is very well understood that when œdema of the feet and legs presents itself in cases of consumption, the end is not far distant; but the renal complication which is at the bottom of such œdema is often overlooked. It is, of course, not impossible that there should be œdema in the last stages of phthisis from simple alteration in the composition of the blood—a watery state of it—but, in the majority of instances, it means that the kidneys have become involved. As to the form of disease affecting the kid-

neys, it is acknowledged that it may be either lardaceous disease or chronic parenchymatous nephritis; but I think the impression prevails—it was, at least, my own until recently—that the amyloid kidney is the most frequent complication. I believe, however, that the chronic parenchymatous nephritis is more common, and it becomes a matter of interest, if not of importance, to be able to diagnose between these two conditions. It is well known that the microscopic and clinical characters of the urine in these two forms of kidney disease are often identical, so that no assistance is afforded by a study of the urine. The history of the case, of course, leads to neither particular form, but suggests both. One criterion only can I recall to aid us, and that is the presence of enlarged liver. So commonly associated is the enlarged amyloid liver with amyloid kidney that the absence of it almost necessarily precludes the presence of amyloid kidney. At least, I am sure we should err less frequently if we were to consider all cases of renal disease attending consumption unattended by enlarged liver to be parenchymatous nephritis rather than lardaceous disease. It is true we often have enlarged fatty liver in consumption, but the degree of enlargement never reaches that of the amyloid liver, and hereafter I shall be inclined to consider all cases of renal disease complicating consumption to be parenchymatous nephritis, unless they are associated with enlarged liver, when I shall conclude that they are instances of amyloid disease.

Dr. BRUEN considered that the passage of large quantities of urine, and a history of specific disease or of prolonged suppuration preceding the kidney trouble, would warrant a diagnosis of amyloid renal disease.

Dr. MUSSER would ask whether the heart was hypertrophied, and what was Dr. Tyson's experience regarding hypertrophy of that organ in cases of amyloid disease and of chronic tubal inflammation of the kidneys. If not too late, he would like to call attention to the absence of cardiac hypertrophy with an infinite degree of obstruction in the renal circulation in the case Dr. Eskridge had presented. This was in direct opposition to the view held by some, that the hypertrophy of the heart is a sequence of the renal obstruction in chronic interstitial nephritis.

Dr. TYSON replied that in this particular instance he did not see the heart, and could not tell whether it was hypertrophied or not. The same law held good for amyloid kidney as for chronic nephritis; if the case lasted long enough, hypertrophy was sure to be found sooner or later.

ECCHYMOSIS OF THE MUCOUS MEMBRANE OF THE STOMACH.—Presented by Dr. J. M. BARTON. The history of the case was that of chronic lung trouble. The stomach, upon being opened, presented an irregularly shaped extravasation of blood about two thirds of an inch in diameter. The mucous membrane covering the effusion was healthy, as it was in the rest of its extent.

Dr. TYSON remarked that these effusions were not uncommon, but he had never seen them except in their pin-point form.

Dr. ROBERTS asked if there had been violent vomiting recently.

Dr. BARTON replied that nothing of this sort had been observed for some months prior to death.

C. B. NANCREDÉ, M. D.,
Recorder.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held October 3, 1882, Dr. CHARLES C. LEE, President, in the chair.

CYSTOCELE RELIEVED BY OPERATION FOR LACERATION OF THE PERINÆUM.—Dr. J. B. HUNTER related the case. The cystocele was very pronounced, and it was his intention to do Emmet's operation on the anterior wall of the vagina, and afterward to repair the perinæum, but the patient was extremely nervous, and opposed to taking ether; she would not allow both operations to be done at one sitting, and doubtless a subsequent one would be declined. He therefore simply did a deep perineal operation, inserting sutures far up on the posterior wall. He expected simply to improve her condition somewhat, but, to his surprise, the cystocele almost entirely disappeared, and she was now comparatively well, having no further trouble with the bladder.

DELIVERY SUBSEQUENT TO REPAIR OF LACERATIONS OF THE CERVIX AND PERINÆUM.—In connection with the foregoing case, Dr. HUNTER said he delivered a woman in June last, on whom he had formerly performed an operation for a severe laceration of the cervix, and also for a complete laceration of the perinæum. The child was born at full term, and weighed over seven pounds. Neither the cervix nor the perinæum gave way, although the latter had a narrow escape. He mentioned the case because so many physicians feared a reproduction of the injury in delivery after operations. This was only one of several which he had seen in which no injury was done the repaired laceration at subsequent labors. Regarding the first case, that of cystocele, he added that he thought an unnecessary operation was often done on the anterior wall, since by repairing the laceration a strong perinæum was given to support this wall, and thus relieve the cystocele.

Dr. A. J. C. SKENE had seen several cases of successful delivery without further injury after operations for laceration of the cervix and perinæum, and regretted not having notes of them with him. He remembered one case distinctly. Many years ago he restored a lacerated perinæum, the laceration extending down to the sphincter, and at a subsequent confinement there was again laceration, but not at the site of the former one. He had seen several cases of delivery after restoration of the cervix, and had seen partial laceration follow, but never a complete bilateral laceration. He could readily understand why this should be so, for with the development of the uterus during pregnancy the compensation of normal tissue would be so great, and the scar tissue so insignificant, that there could be no more reason why laceration should occur than in a case in which it had not happened before. With regard to restoration of the perinæum, and its effects upon cystocele, he would say that for eight or ten years he had depended entirely upon this operation for the relief of cystocele. His experience coincided entirely with that of Dr. Hunter in the case related. He had little faith in the operation on the anterior vaginal wall. In reply to a question by Dr. Hunter, he said he thought the laceration of the cervix in two of the cases occurred at the seat of the original injury, or so near it that he could not tell that it was not in the same place.

Dr. HUNTER remarked that, a few months after restoring a lacerated cervix, he could not determine by the touch where the injury had been; the tissue seemed to be no harder than the surrounding tissue. In reply to a question by

Dr. Skene, he said he used silver-wire sutures in repairing the cervix and the perinæum; smaller wire in the former case, larger in the latter.

Dr. SKENE had operated in three cases on the cervix and perinæum at the same time, but he used Japanese whale-sinew sutures on the cervix, and paid no attention to them afterward, and found that at the end of the month there was no trace of them left, and the results were good. He had never had a case do badly after the use of this suture.

With reference to the existence of cicatricial tissue some time after restoring a lacerated cervix, Dr. A. S. CLARKE remarked that about five years ago he assisted Dr. Skene in restoring a cervix badly lacerated bilaterally, and he was sent for in June last to deliver the same woman, but when he arrived the child was born, labor having been very rapid. The child weighed ten pounds. There was no laceration. He examined the woman again lately, and no trace of a laceration could be found. He thought that, if any cicatricial tissue from the old operation had been present at this rapid dilatation and delivery, it certainly would have given way.

Dr. F. P. FOSTER asked Dr. Skene what ground there was, if any, for supposing that cicatricial tissue running lengthwise of the cervix would offer resistance to dilatation.

Dr. SKENE replied that, if the cicatricial tissue were considerable in quantity, it might possibly do so. He said *might*, but in fact he believed with regard to this canal and others, the rectum, etc., that no trouble would arise from the presence of cicatricial tissue unless the circle was completed. If, for instance, nitric acid or nitrate of silver were applied to the wall of the canal, the circle not being complete, but broken by healthy tissue, any tendency to contraction in the scars would be compensated for by the intervening healthy tissue.

Dr. H. T. HANKS said that, in one of the first cases he ever operated upon for laceration of the cervix uteri, he delivered the patient of a child about eighteen months afterward without any injury to the cervix. Since then he had had a similar experience in several cases, one of which he remembered reporting when Dr. Emmet read his second paper on this operation.

Two years ago the PRESIDENT performed an operation in the Woman's Hospital on a patient who had a very extensive double laceration of the cervix, so that very little of the true cervical tissue remained after its repair. An excellent result was obtained. He was particularly interested in the case, as the laceration had been so extensive, and she was a young woman and expected to bear more children. He was engaged to attend her in confinement last summer, as she feared a recurrence of the laceration. Being unable to attend her himself, his associate, Dr. Swasey, was present, and reported that no laceration whatever had occurred. The President examined her very carefully afterward himself, drawing down the cervix with the tenaculum, but he was unable to find any laceration. Regarding the so-called operation for cystocele, devised really not by Dr. Emmet but by Dr. Sims, he believed that Dr. Emmet himself had about abandoned it except it were in extremely marked cases; that at his clinics he usually did only the operation for restoring the perinæum.

The PRESIDENT remarked that he had certainly found the special operations which had been recommended for cystocele of late years of no benefit. In an operation for cystocele, he could well appreciate the difficulty of keeping the edges of the wound approximated, and preventing the sutures from cutting through the thinned or extremely attenuated vesico-vaginal tissue, and he had

failed to obtain practically the results which were theoretically claimed for the operation; but he had obtained very good results by closing the lacerated perinæum, and extending the operation up the posterior wall, as had been described by Dr. Hunter.

Dr. M. A. Pallen said he believed the operation upon the posterior wall of the vagina for the relief of cystocele was original with himself. Some of his views on the subject had been quoted in a recent number of the "British Medical Journal." He would give them more fully at a future meeting of the society. With regard to subsequent delivery without injury after operation on the cervix, he had met with several such cases—at least half a dozen—in his own experience. Some patients he attended at two subsequent labors, and no laceration took place. Last February he closed a double laceration of the cervix, and in July last attended the patient in labor. No laceration occurred either of the cervix or of the perinæum, both of which he had operated upon for laceration. He had also had a number of cases in which no recurrence of laceration of the perinæum had occurred at subsequent deliveries. With regard to the operation on the perinæum for the relief of cystocele, the patient whose case he related at the last meeting of the society, while describing his method of operating, had had cystocele and cystitis, but since the operation she had been well.

Dr. Hunter said he was very glad to have had an expression of opinion with regard to the non-laceration of the cervix in parturition after an operation had been performed upon it, for he believed it was a very common opinion, not in this city, perhaps, but elsewhere, that an operation was useless if the woman expected to have children afterward. He remembered two cases in which the operation was indicated, but, under the advice of their physicians, the patients declined, saying they would wait until after the time of child-bearing. He believed that the cervix was just as liable to laceration after the operation as before, but no more so. He did not believe that any hardened tissue remained after the lapse of six months or a year.

In connection with the question of what suture should be used, the President asked Dr. Hunter at what period he usually removed the silver-wire sutures from the cervix in the number of cases in which he knew him to have operated upon both the perinæum and cervix at the same time.

Dr. Hunter replied that he never had had any difficulty from them; that he usually removed them within three or four weeks. He inserted a small speculum, and had no difficulty in removing the sutures from the cervix, and did no harm to the perinæum. He had allowed the wires to remain in the cervix two months without causing trouble. The patients were allowed to get up and go about, sometimes to go home. He had used the silk suture, and also the catgut, in two cases, in one case the result being good, in the other not so good. The silk gave a good result, but he preferred the wire, because at the time of the operation it could be tightened or loosened more readily in adjusting the parts. Having tied the knot in the silk suture, it could not be changed.

The President remarked that some claimed that if the patient was allowed to walk about the wire suture would do damage, but Dr. Hunter's experience would go to prove the contrary.

In reply to Dr. Skene's question, whether the sutures became embedded in the cervix, Dr. Hunter answered, No; they lay flat upon the cervix, and did not project within the vagina.

Dr. Clarke remarked that he must take issue with Dr. Hunter on the sup-

posed increased facility of tightening the silver suture over the silk, if the latter were tied in a granny knot, and this kind of knot was found to hold sufficiently well in this operation if the silk were prepared as Dr. Skene prepared it. He had assisted Dr. Skene at this operation more than eighty, if not a hundred, times during the past five years, and for the last four years he had used the silk suture altogether. By tying the kind of knot referred to it could be tightened afterward if found necessary, and yet he had not known it in any case to slip from swelling of the cervical tissues. He had better results from the silk suture than from the silver wire; it rarely cut, whereas the wire had often done so in his hands.

In reply to a question, Dr. SKENE said he used the braided, not the twisted, silk.

Dr. PALLER protested against the poor quality of the silver wire in the market; it was not made from the pure silver. He hardly ever introduced as many as six sutures without one of them breaking.

The PRESIDENT said Dr. Clarke was particularly well fitted to judge of the comparative value of the silver and silk sutures, having had experience with both, and he asked which he had been able to introduce with the greater facility. The President had generally made use of silver wire at the hospital.

Dr. CLARKE replied that he had no doubt that the operation could be done in one half the time with the silk suture that was required when the silver wire was used. It took a good deal of dexterity to tighten the silver-wire sutures, and get the parts properly coaptated, and a good deal of time on the part of the unskilled operator, whereas with the silk suture any one could coaptate the parts without any trouble.

Dr. SKENE also spoke of the ease with which one was able to tighten the silk suture when tied as indicated, and he had never known it to show the least evidence of slipping during the healing of the cervix. It was much easier, of course, to remove it than to remove the silver suture.

Dr. HUNTER remarked that the silver wire was not to be tightened by twisting, else it would almost certainly break, but by pulling upon it with the forceps before twisting. He had not for years had the silver wire cut through. He thought it was a matter of comparatively little consequence what suture one used; almost anything would answer the purpose.

The PRESIDENT remarked that in fastening the wire suture in the vagina, while he was at present able to do it without trouble, he always felt that it was a difficult and embarrassing thing for the general practitioner to do, or the gynecologist who was not in constant practice in this operation. It was, therefore, a matter of considerable importance if the silk suture were found to possess advantages in this respect as spoken of by Dr. Clarke.

Dr. SKENE remarked, referring to a statement made by Dr. Hunter, that he thought it did make a great deal of difference as to what kind of suture was used, whether silk, linen, silver, etc. The only reason why the silver wire was ever used as a suture was that it caused less irritation and consequent suppuration, and could be left in position longer. If the prepared thread which he employed was used, we had something which possessed all the virtues claimed for silver wire in this respect; but the same could not be said with regard to thread taken off the spool, etc. These latter were irritating, and liable to cause suppuration. He used to get silk of his druggist which was carelessly prepared, and it caused suppuration. He had the silk prepared in the following manner:

Braided silk was soaked in hot wax five or six hours, until it became thoroughly saturated with it. The wax was prepared with carbolic acid and salicylic acid. Carbolic acid alone would not answer the purpose, since if the silk were kept for some time the carbolic acid would disappear by evaporation. Silk prepared in this manner would not absorb moisture if left in the tissues a year. He had known a piece to remain in the cervix during pregnancy, and through delivery, and on removing it six weeks after delivery he found it to be still in good condition. More could not be expected of the silver wire. He had no prejudice against the use of silver wire; in certain operations it was preferable, as in vesico-vaginal fistula, where he would not dare use silk; but silk certainly offered greater facility in its use. In reply to a question by the President, he said he would not use it in vesico-vaginal fistula, because it might lead the urine to follow a suture track, which was not desirable. It was possible, however, that it would answer perfectly well in this operation, but he had not yet tried the experiment.

Dr. SKENE remarked that another advantage which silver wire possessed in the case of laceration of the perinæum was its quality of stiffness. He would not dare use silk in a laceration through the sphincter. In lesser lacerations it gave as good results as silver wire.

Dr. PALLAN said he had made a series of experiments at the University Medical College clinic with regard to the comparative value of the silk and silver-wire sutures. He used the silk and the wire suture at alternate clinics for some time, operating on as many as thirty patients at least, and, while he had not had a single failure with the wire, he frequently failed with the silk; it either cut out, or caused suppuration, and rendered a second operation necessary. This never failed when done with the wire suture. He used the best so-called anti-septic sutures sold at the shops. With regard to the time required to do the operation, it differed little whether the one or the other suture were used; the difference could not be more than ten minutes at most, and this was unimportant, especially if the patient were etherized. He had often done the operation without etherizing the patient at all, particularly in former years. The longer he used the silver-wire suture the more he felt our indebtedness to Dr. Sims for popularizing the metallic suture; and, if he had never done anything else for the profession, that alone would entitle him to our gratitude.

Dr. SKENE said that, in order to have this matter as well understood as possible, he would refer to the fact that, out of the eighty or probably one hundred cases which he had operated upon, there occurred but a single failure, and only five or six partial failures. In the case of the complete failure the silver-wire suture was used. The patient subsequently came to his office, he closed the laceration with silk sutures, soon afterward removed the sutures, and the result was a perfect success. So that while he, with Dr. Pallan, felt gratitude to Dr. Sims for having introduced the metallic suture, because of the advantages which it possessed over other sutures known in the past, he did not think it should deter us from the use of a better one for certain purposes which had been since devised. The silk suture prepared as indicated was just as non-irritating, just as perfectly antiseptic, as the silver wire. But those which were for sale in the shops, so far as he had had experience with them, did not possess the qualities referred to. Dr. Sims's reputation did not depend upon the continued use of the silver wire in this operation; he deserved our gratitude for the good which his introduction of it had brought about, but, as Lister's name would remain great

among us while Listerism itself would be superseded by something else, so might Sims continue in our gratitude though the silver-wire suture should be superseded by a better one. Besides being just as non-irritating and antiseptic as the metallic suture, the silk suture certainly offered greater facility in its use. The difficulty of manipulating half a dozen or a dozen silver wires, which tended to kink and become twisted together, was certainly opposed to facility of operating, especially in the hands of one not expert. In reply to a question by the President, he said he did not recall the exact proportions of the mixture in which he soaked the suture, but it was about five per cent. of carbolic acid, perhaps a little less than that of salicylic acid. The important point, however, was the long immersion; an hour or two was not sufficiently long a time. If prepared as directed, the suture would not swell when left in water. In reply to a question by Dr. Foster, he said the advantages of braided over twisted silk were that it did not untwist, remained perfectly solid, and he thought it was stiffer. This preparation was almost as stiff as silver wire, and did not untwist before its use or afterward. The ligature was not fit for the tying of large vessels or a pedicle, as it would slip, whatever knot were tied, but it would not slip from ordinary swelling of tissues.

Dr. CLARKE remarked that he thought a gain of ten minutes in the performance of the operation was considerable, especially if the patient were nervous and not etherized. He thought it usually required more than ten minutes longer to do the operation with silver wire.

Dr. R. WATTS asked what objection there could be to doing the two operations—that for laceration of the cervix and perinæum—at the same time. The objection seemed to be a very common one. He had done the double operation in a number of cases, at least eight or ten, and he had never had any trouble from the sutures in the cervix, although he left them in four weeks or longer, and menstruation had occurred in the mean time in several cases.

Dr. PALLER replied that his only reason for first closing the laceration in the cervix was that in his earlier practice, with rough sutures, etc., in a number of cases the cervical operation was not successful, and if the double operation were done he would have to wait for some time before operating on the cervix again, as the perinæum was tender. At present, however, there could be but one objection to the double operation: that was the prolonged use of ether, extending at least over an hour and a quarter.

Dr. HUNTER remarked that he had done the double operation on two patients at the hospital the day before within an hour and three quarters. He was the first to do the double operation at the Woman's Hospital. He had asked Dr. Thomas's and Dr. Emmet's opinion regarding it, and they advised against it. Nevertheless, he did it, and the result was successful. It saved time on the part of the patient.

The PRESIDENT remarked that he thought the objections offered against the double operation were imaginary—namely, the discharge which might arise from the repaired cervix coming in contact with the sensitive perinæum, and, second, the liability to injury of the perinæum in removing the cervical sutures. He had good results, although he removed the sutures within three or four weeks.

Dr. PALLER remarked that it would not matter if the silver-wire suture were left in the cervix two months or longer. He had known it, however, to excite irritation in the glans penis in one instance in which he and Dr. Sims had forgotten to remove the sutures.

Dr. SKENE remarked that in these cases there was almost always some prolapsus of the uterus, and one objection to doing the two operations at a single sitting was that, on account of the repaired perineum, treatment for the prolapsus and the attending discharge could not be continued so well. He introduced a tampon of marine lint, which he considered better than the douche, as the latter was intermittent, and might not remove all irritating matter; the lint kept the parts clean, contained antiseptic fluid, and retained the parts in position. He would say that the suture which he used was not made of silk, but of Japanese whale sinew, and this suture became entirely absorbed in about six days, which was sufficiently long to allow the parts to heal. In reply to a question by Dr. Hunter, he said that when he used the silver wire he removed it about the eighth day.

Dr. HUNTER said he was accustomed to leave the suture longer than that, as in some cases he found union was not so strong at the eighth as at the tenth day.

Dr. HANKS remarked that some years ago Dr. Peaslee performed the double operation at the Woman's Hospital, and was doubtful whether it would prove successful. It did, however, and Dr. Hanks had commonly done the double operation on the poorer class of patients, because they could not usually spare the time for two separate operations. He removed the sutures from the cervix generally from the third to the fifth week. No damage resulted when they were left in five weeks.

Dr. HUNTER remarked that in the case of rich patients time might be spared for the two operations, and there was a certain advantage in doing the operations at separate times, as the greater ease of controlling possible hæmorrhage, etc.

Dr. W. R. GILLETTE had commonly done both operations at once, and he thought it was no more irritating to have a number of sutures introduced at the seat of the two injuries than a smaller number at the single one. His results had been good; no injury arose from leaving the sutures in the cervix for some time. It was only a matter of convenience to the operator, in his opinion, whether one, two, or three operations were done at a single time.

LABOR COMPLICATED BY A FIBROID TUMOR OF THE CERVIX.—Dr. HANKS was recently called in by Dr. J. H. Billings to see a patient who had been in labor about twenty-four hours. When he arrived he found that the patient was thirty-three years of age, a primipara, who was having very frequent and, apparently, very severe pains. Dr. Billings was unable to say just what the presentation was. Upon making a vaginal examination, Dr. Hanks found a body nearly filling the pelvis, and, on closer examination, he became convinced that it was a fibroid tumor, so large that it completely obstructed the descent of the child's head. An hour later, with the assistance of Dr. Billington, they gave ether, and then found that as the abdominal walls had relaxed the uterus had receded considerably. He was then able to force the tumor above the brim and apply the forceps and extract a living child. This could not have been done had ether not been administered. The mother and the child did well. The tumor was at least as large as one's fist, and was situated in the posterior cervical wall, the lower border being about half an inch from the external os. He remembered distinctly having had a somewhat similar case, in which the tumor occupied the whole of the posterior wall of the cervix. Dr. Thomas was called, and performed Cæsarean section, but the result was fatal. It was impossible to perform craniotomy in that case. In this last case they had since been able to

feel several small tumors in the uterine walls. No hæmorrhage had occurred. He would add that Dr. Thomas would at the present time use the scoop in a similar case, and enucleate the tumor, rather than perform Cæsarean section.

The PRESIDENT remarked that a similar case was reported in the last volume of the "Transactions of the Obstetrical Society of London." It was one of the most difficult, and also one of the rarest, complications of labor.

HENRY J. GARRIGUES, M. D.,

B. F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex-officio*,

Committee on Publication.

THE annual meeting of the society was held October 17, 1882, Dr. CHARLES C. LEE, President, in the chair.

Dr. H. J. GARRIGUES presented a specimen of METRITIS DISSECANs, which was accompanied by a written history. [See p. 587 of this number of the journal.]

Dr. A. JACOBI had seen but one such specimen, which was presented to this society last winter as an alleged monstrosity, but which proved, as he then supposed it would, to be a mass of uterine tissue. The same case was referred to by Dr. Garrigues in his paper. Dr. Garrigues's case was a very interesting one to him, and it would still be interesting if no theory had been offered in explanation of the extension of the diphtheritic process to other organs. It was true that bacteria were found in every diphtheritic and putrid process, but he did not believe the bacteria theory covered the etiology of disease. He asked Dr. Garrigues whether he used an elastic or a solid catheter. Dr. Garrigues replied that he used a double-channel silver catheter.

AN UNUSUAL CONDITION OF THE RECTUM IN A CASE OF PELVIC ABSCESS.—Dr. F. P. FOSTER presented a specimen with the following history: The patient was prematurely delivered in August, and came into Dr. Bozeman's service at the Woman's Hospital in September, suffering from a septicæmic condition, with a constant fœtid discharge from the uterine cavity. The cause of the discharge was found to be a large tumor, submucous and sessile, attached over the anterior wall of the uterus. The patient was put upon the use of antiseptic intra-uterine injections, and received rectal alimentation and supporting treatment in general. In the course of a week after admission she had uterine pains, and expelled the mass now shown, which was found to be a fibro-myoma. Afterward there was a mass felt through the abdominal wall extending up, particularly on the right side, to about the level of the umbilicus, which proved to be due to a cellulitis, principally in the right broad ligament. Two abscesses afterward broke into the vagina, posteriorly to the cervix. After the discharge from the first abscess ceased, all the symptoms of a general peritonitis developed. The point to which he would call special attention was then found. On attempting to make a vaginal examination, he was hardly able to introduce a single finger, because of a partial blocking up of the vagina by a projection from behind. His first thought was that there might be a purulent collection at that part, although it was rather low; but, on introducing the finger into the rectum, and the thumb into the vagina, nothing was found in the recto-vaginal space. The rectum appeared to be widely enlarged, not, however, from anything within swelling it out. It was sufficiently capacious to admit his fist. His idea that an inflammatory exudation above might have drawn the anterior wall of the rectum up was opposed by the fact, as Dr. Bozeman had suggested, that there was no acute

angle in the contour of the anterior wall of the rectum. This condition had lasted for several days, but lately no examination had been made.

THE LATE DR. JAMES B. REYNOLDS.—In the executive session the following resolutions were adopted:

Whereas, the fellowship in this society of our late associate, Dr. James B. Reynolds, has been terminated by his decease,

Resolved, That we deeply feel the deprivation which, as a society and as individuals, has fallen upon us by the death of Dr. Reynolds, whose career in the society was always instructive to us and creditable to himself. Not only by the part he took in our scientific proceedings, but also by his personal qualities and his uniformly kind and courteous demeanor, he won our warm regard and affection, as well as our profound respect.

Resolved, That these resolutions be entered in our minutes and published in our Transactions, and that a copy of them be transmitted to the family of our late Fellow, with an expression of our deep sympathy with them in their affliction.

BACHE McE. EMMET, M. D.,
MONTROSE A. Pallen, M. D.,
FRANK P. FOSTER, M. D.,

Committee.

THE LATE DR. J. FOSTER JENKINS.—At a meeting of the New York Obstetrical Society, held November 7, 1882, the following report was made by the committee appointed to draft resolutions in regard to the death of Dr. J. Foster Jenkins:

We, the members of the New York Obstetrical Society, mourn with heartfelt grief the death of Dr. John Foster Jenkins, for sixteen years an honored Fellow of the society.

With pleasure we recall the purity of his character and the sweetness of his life.

Highly cultivated, by nature a lover of books, and endowed with rare native ability, he represented the highest type of the scholarly physician.

Faithful in his attendance at the meetings of this society, and an active participant in its discussions, his loss from our ranks will be keenly felt, and his memory will ever be regarded by us with honor and affection.

Therefore, be it *Resolved*, That we express our sympathy to his family in the time of their affliction, and convey to them our appreciation of his high personal worth and of his generous and noble qualities.

WILLIAM T. LUSK, M. D.,
ROBERT WATTS, M. D.,

Committee.

On motion, the foregoing report was accepted, and a copy was ordered to be sent to the family of the deceased, to the "New York Medical Journal," and to the "Medical Record."

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex-officio*,
Committee on Publication.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

A STATED meeting was held November 2, 1882, Dr. EDWARD L. DUER, President, in the chair.

Dr. ROBERT P. HARRIS exhibited twenty-three casts of female bony pelves, illustrating the varieties of deformity affecting labor. They were obtained in Paris, by Dr. T. Hewson Bache, for the Museum of the College of Physicians.

PURPURA HÆMORRHAGICA.—Dr. HENRY BEATES related the history of a child healthy until four months old, at which age it was attacked by thrush; ten days later an ecchymosis of purpuric character appeared on one leg, and a few days later spots of the same character appeared over the body. On the fifth day the stools were tarry, showing intestinal hæmorrhage; a bronchial secretion was also stained with blood. On the seventh day a hæmorrhage started from an abraded spot on the perinæum. Various local styptics were applied to this spot without result, until a red-hot needle was used as a cautery. On the tenth day a hæmorrhage occurred from the canthus of one eye, and on the fifteenth day the child died from exhaustion. At the autopsy the internal organs were found quite exsanguine.

BURSTING PELVIC CYST.—Dr. BEATES related the case of a patient who had been for some time in poor health. Nine months ago she observed a tumor in the right iliac region. On one occasion, after slight exertion, she felt something give way; this was followed by intense pain and collapse. She recovered, and has had no return of the tumor.

HÆMORRHAGIC DIATHESIS.—Dr. WILLIAM SAVERY related the history of a boy, five years of age, who had fallen and received a slight wound of the scalp from a nail projecting from a post; it was a mere scratch, and did not need a stitch to hold it together, but it bled profusely. All sorts of domestic remedies, including cobweb, had been tried without avail. The doctor finally succeeded in arresting the hæmorrhage with lint wet with Monsel's solution, and continued firm pressure. A few days later the same boy fell off a step on to the floor; there was no external wound, nor any loss of blood, but the side of the face was enormously swollen from hæmorrhage into the tissues. A course of iron and tonics has improved the boy's appearance, but he is still pale.

Dr. HARRIS inquired if there was any history of hæmophilia in the family. Had the boy large knee joints? There is a hæmorrhagic diathesis, he added, entirely distinct from true hæmophilia. The latter is rare in cities, but is more frequent in the country. The descent is through the females of a family, but the disease appears only in the males; the Jews in certain districts of Germany present many examples. There is a remarkable family of the sort near Elkton, Maryland.

Dr. SAVERY replied that there were no evidences of hæmophilia in the family. The mother was pallid, had red hair, but did not lose much blood in labor.

Dr. HORACE WILLIAMS had seen a case of obstinate and prolonged hæmorrhage after the extraction of a tooth; it was finally stopped by fitting a cork into the alveolar cavity. An infant aged nine days was attacked with purpuric spots over the body and bleeding at the navel. To the latter were applied successively styptic colloid, tannin, Monsel's solution, Monsel's salt in powder, and finally transverse pins and figure-of-eight ligatures; but the bleeding reappeared as soon as the latter came away, and the child finally died from loss of blood.

Dr. R. A. CLÉEMANN had under his care a young man who had previously

suffered from profuse hæmorrhage for two days consequent on the extraction of a tooth; the hæmorrhage was finally stopped by Dr. Hartshorne, who plugged the cavity with a styptic, and advised the young man never again to run the risk of a hæmorrhage of any kind, as it would probably prove fatal. Recently he had been suffering severely from a toothache which nothing but extraction could relieve. Dr. Cleemann put him on gallic acid internally and tannic acid locally for two weeks before the extraction, which was accomplished without any unusual loss of blood. In a case of nasal hæmorrhage, the anterior and posterior nares were plugged, but then ecchymoses appeared around the eyes, and the plugs were removed; transfusion of a few ounces of blood was employed, and the hæmorrhage ceased and did not return; the patient died three months later of phthisis.

The PRESIDENT considered gallic acid a very valuable remedy for hæmorrhage. He would like particularly to bring before the society the old but neglected remedy, erigeron, or flea-bane. The tincture and the volatile oil, he remarked, are very efficient when used internally to stop hæmorrhage. The oil may be given in doses of ten drops every ten minutes until the bleeding is checked, after which it may be continued at longer intervals until the tendency has passed away.

Dr. GITHENS had been using oil of erigeron for a number of years with remarkable success as an internal hæmostatic. It was far more reliable than any other with which he was acquainted.

IMPERFORATE RECTUM.—Dr. GITHENS had performed an autopsy this afternoon upon a baby, aged twelve days, that had died from occlusion of the bowel. The anus was perfect, but, as no meconium was passed, an examination of the rectum was made. The latter was found to be a cul-de-sac about one inch and a half in depth. As a tumid swelling could be felt above, a nick was made at the upper extremity of this cul-de-sac, and gas and meconium escaped. Two days later it was found necessary to enlarge this opening, but at no time did any solid fæcal matter pass, nor did the color of the milk appear in the fæces. Death occurred from collapse due to escape of the contents of the bowel into the peritoneal cavity. At the autopsy the rupture could not be found; the transverse colon was filled with well-digested milk; the upper part of the descending colon, doubled sharply on itself, was bound down tightly to the posterior wall of the abdomen, there being no meso-colon on the left side; the lumen of the colon at this point was also obstructed by an hypertrophied fold of mucous membrane, which formed a septum reaching half across the colon, and had prevented the passage of the solid portions of the fæces below that point; the rectum was distended with semi-liquid, dark fæcal matter.

A very remarkable circumstance in connection with this case was the fact that a former child of the same parents died at the end of the third day, there having been no discharge from the bowels; and the mother's aunt, on her mother's side, had lost five children out of seven, from the same cause; one of the five had been operated upon, but the condition returned after a lapse of six months.

REPORT OF THE MICROSCOPICAL EXAMINATION OF SPECIMENS PRESENTED AT THE LAST MEETING BY Dr. WILLIAM PARISH; by Dr. H. BEATES.—The specimen removed from the cervix uteri of case No. 2 is carcinoma of the encephaloid type.

The small tumors taken from the uterine cavity of case No. 1, for the relief of continued hæmorrhage, prove, on section, to be hyperplastic glandulæ utricu-

lares, mucous membrane, and parenchyma. The intimate relationship of the uterine mucous membrane with the muscular structure is clearly shown, and the features of clinical interest in this instance are well demonstrated. The mucous follicles, or glands, located on the free border in considerable number, indicate that the growths originate from the fundus. The follicles are the seat of active epithelial proliferation and papillomatous degeneration, which latter process, it may be remarked, is *not* characterized by the regular relationship of cells to vessels seen in typical or benign papilloma, but by large multinucleated, irregularly shaped cells arranged in groups without any apparent regularity or system. This condition is strongly suggestive of carcinoma. The lesó fibers are found to be infiltrated in many places by proliferated epithelium cells, showing that the morbid process involves the parenchyma.

W. H. H. GITHENS, M. D.,
Secretary.

Reports on the Progress of Medicine.

MONTHLY REPORT ON OBSTETRICS AND GYNÆCOLOGY.

No. XXIII.

By ANDREW F. CURRIER, M. D.

OBSTETRICS.

1. BLACKERBY, J. M.—*Viburnum prunifolium*—its medicinal properties and uses. "Therap. Gaz.," Sept., 1882.
2. REYNOLDS, J. P.—Induction of premature labor; manual dilatation; fatal result to both child and mother. "Boston Med. and Surg. Jour.," Oct. 19, 1882.
3. RICE, C. C.—Practical remarks on the management of the second stage of labor. "Am. Jour. of Obstet.," Oct., 1882.
4. PROS.—Méthode des tractions dans les accouchements difficiles. [Assoc. franç. pour l'avancem. des sci.] "Progr. Méd.," Sept. 23, 1882.
5. GALBRAITH, T. S.—A new procedure for dislodging locked twins. "Am. Jour. of Obstet.," Oct., 1882.
6. BOYD, J. P.—On the use of the cranioclast and cephalotribe. "Med. Annals," Sept., 1882.
7. TRUZZI, E.—Di una giustificata vittoria dei cranioclaste Braun sul forcipe perforatore Lollini. "Gazz. Med. Ital.—Lombardia," Sept. 16, 1882.
8. JEWETT, C.—Note on delivery of the placenta. "Proc. of the Med. Soc. of the County of Kings," Oct., 1882.
9. WILSON, B. F.—The proper time to remove the placenta with reference to the prevention of post-partum hæmorrhage. "Am. Jour. of Obstet.," Oct., 1882.
10. GRISWOLD, R. W.—Some observations on expression of the placenta. A criticism of the Credé method. "Louisville Med. News," Sept. 30, 1882.
11. DASHIELL, R. R.—A case of abdominal pregnancy. "Nashville Jour. of Med. and Surg.," Oct., 1882.
12. MACLEOD, N.—Remarks on antiseptic midwifery; experiments with loeial fluid. An examination of Braidwood and Vacher's conclusions. "Brit. Med. Jour.," Oct. 14, 1882.

13. LOWE, J.—Puerperal fever; its treatment and prevention. "Edinb. Med. Jour.," Oct., 1882.
14. GAUNT, T. T.—The care of the puerperal breast. "Am. Jour. of Obstet.," Oct., 1882.
15. GARRIGUES, H. J.—Obstetrical tetanus and tetanoid contractions. *Ibid.*

4. At a recent meeting of the *Association française pour l'avancement des sciences*, M. Pros, of La Rochelle, spoke concerning the *method of traction in difficult labors*. He inquires whether the use of traction can diminish and abridge the sufferings of the parturient woman, forestall certain accidents, and bring the field of craniotomy within narrower limits. If it can, we should seriously consider that method which has fallen unjustly into forgetfulness (tractions mécaniques artificielles). The apparatus which the author recommended never harms the mother, and may save the child. Its principal advantages are: 1. In sparing the woman, whenever possible, from painful and dangerous compression. 2. In grasping every favorable chance of avoiding mutilation of the child in severe cases of labor. 3. Permitting the accoucheur to terminate with the forceps a labor which has called either for an expenditure of a great quantity of mechanical force, or for a previous decapitation. 4. Acting with the greatest precision in terminating the gravest as well as the simplest cases either slowly or rapidly, as desired. These conclusions have been reached by the author after an experience of several years, justifying his original propositions in the matter. There are two methods by which he applies his system of tractions; the first is that of instrumental and manual traction combined, the second is the manual alone, or the manual and the podalic combined. [The report from which we abstract is only an analysis, hence we are unable to describe the apparatus, which is alluded to as "extremely ingenious."] In the discussion following, M. Pros declared that he did not hesitate to draw with his apparatus with a force of sixty kilogrammes. M. Roussel advocated mechanical traction, believing that its results were excellent. M. Landowski did not believe in the system. He thought it necessary for an operator to feel and be conscious of the quantity of force which he was exercising. One should not forget that a woman was possessed of feeling. M. Pros replied that the force used

acted exactly as in nature; that he was always conscious of the resistance which was overcome, and of the force which his traction was exerting. M. Roussel thought that much less force was used when recourse was had to mechanical appliances than when one used manual force. The important point was to make the traction in the axis of the pelvis.

5. Dr. T. S. Galbraith offers a *new procedure for dislodging locked twins*. It was suggested by a case to which the author was called, the patient being in labor at the time. One child had been expelled with the exception of the head. The occiput was to the front, in the right oblique diameter, and the chin was extended. The occiput of the second child was also to the front, and the necks of both were in close contact. The patient was placed in the knee-chest posture, and the accoucheur's hand being introduced into the vagina, the obstructing head was moved out of the way. The head of the first child was then flexed, and it was quickly born. The second child was extracted with the forceps shortly afterward. The first child was dead; the second one and the mother recovered. [This simple experiment of the knee-chest posture certainly has an advantage over the destructive operations usually recommended.]

10. Dr. R. W. Griswold makes some observations on *expression of the placenta; a criticism of the Credé method*. The author has practiced the old method of extraction, with traction upon the funis, for thirty years, and does not like the new fashion. He compares the uterus from which the placenta is to be expelled to an inverted jug, through the narrow mouth of which a body of larger diameter than itself is to pass. He adds: "A common-sense consideration of the easiest way to get any semi-solid mass, capable of being molded, into a different shape, and which has a considerably larger diameter above the neck of the bottle than it has at the neck, is to reduce the diameter above by elongating the body with it." He cites as an illustration of this principle the manner in which a snake swallows a

toad. Traction upon the cord accomplishes the desired change of shape in the placenta, and, by dragging the mass into the narrow passage, assists in its dilatation. He thinks it also stimulates uterine contraction by the irritation produced. The author thinks this procedure "a philosophical, rational, and common-sense one." The traction must co-operate with the expulsive action of the uterus, and he thinks that in this way time will be saved, as well as effort on the part of the patient. The Credé method, he thinks, has no merit aside from its tendency to incite the uterus to contract, and as such it is not materially different from the friction and pressure which were long ago advised by Ramsbotham, Dewees, Denman, and Blundell. [With all deference to the author's thirty years of experience, and conscious of our own inexperience, we beg leave to criticise his criticism. It is evident that he has mistaken the spirit of Credé's method, which is truly, in effect, nothing more than was accomplished by following the directions of the old writers quoted. When Credé speaks of *expressing* the placenta between the hands which grasp the uterus, we take it that he refers simply to the sensation that is produced by such an operation, and which any one who has ever tried it will recall. The uterus with its contractile power is the main factor in this mechanical problem. Again, with due respect to the author's experience, we deny that the procedure which he recommends is either that of philosophy, that of reason, or that of common sense. We do not believe that Nature intended the funis for a handle by which to pull out the placenta, and, while admitting that there are occasions when it may be necessary to exercise traction upon it, we believe they are the exception, and not the rule; all of which, in view of the anatomy of the organs referred to, and the instruction of the present day, is very much like the discussion of an axiom.]

12. Dr. Neil Macleod publishes an article on *antiseptic midwifery*, giving experiments with lochial fluid, and embracing an examination of Braidwood and Vacher's conclusions. The experiments made by the author were in such decided contrast to the conclusions referred to that he was induced to publish them. Braidwood and Vacher's results are condensed in the following propositions: *a*. "Normal human lo-

chial discharge of the fourth day after delivery is septic to rabbits." *b*. "It invariably induces in them septicæmia, as proved by post-mortem examination." *c*. "The fatal dose of the aqueous solution employed is from half a drachm to a drachm." *d*. "When allowed to putrefy, it induces local supuration, like other irritant, putrid organic fluids, as well as its own special characteristic visceral formations." *e*. "No special constitutional symptoms indicate the important systemic changes which are going on." *f*. "The surest method of inducing septicæmia with lochial solution is by injection into the pelvic peritoneal cavity *per vaginam* or *per perinæum*." *g*. "Antiseptic solutions, mixed with the septic lochial fluid, do not appear to modify its lethal influence." *h*. "Micrococcus organisms are not present in, nor are they necessary for, the septic potency of the septic fluid." In attending obstetric cases the author insists on cleanliness, and washes his hands as often as necessary in carbolized solutions. After labor the vagina is syringed out with a warm one-to-thirty solution of carbolic acid. Until the fifth day the vagina is syringed twice daily with a two-and-a-half-per-cent. solution of carbolic acid. After the fifth day the injection is made only once, in normal cases. The external parts are also kept clean, the napkins being frequently changed. More frequent syringings and stronger solutions are used when required. The fluid used for the experiments was taken twelve hours after the last syringing, and injected into the pelvic peritoneal cavity *per vaginam*. Six rabbits were thus injected, the fluid for each case having been taken on the fourth day after delivery, and none of them suffered seriously from the operation. From this he concludes that human lochial fluid, from patients treated antiseptically, and from whom it is collected upon the fourth day, is not septic to rabbits when injected into the pelvic peritoneal cavity in doses of sixty-five minims or less. The advantages of the antiseptic treatment to puerperal women are: 1. The shorter duration of the lochial discharge. 2. Its lessened amount while it lasts. 3. Its freedom from odor. 4. Increased comfort to the patient, and an anæsthetic effect upon the parts. It is necessary to avoid using too strong a solution, lest the patient be poisoned. The author says

he has had no cases of puerperal fever during the four years in which he has been following this plan of treatment.

GYNÆCOLOGY.

1. DANILLO, S.—Recherches cliniques sur la fréquence des maladies sexuelles chez les aliénées. "Arch. de Neurol.," Sept., 1882.
2. MOOREN.—Disturbances of vision and uterine diseases. "Arch. of Ophth.," xi, 3, 1882.
3. SKENE, A. J. C.—Clinical observations on cystitis in women. "Proc. of the Med. Soc. of the County of Kings," Oct., 1882.
4. TURNER, H. L.—Novel gynæcological practice—pessary in the rectum. "Nashville Jour. of Med. and Surg.," Oct., 1882.
5. SCHENCK, P. V.—The use of hot-water injections in uterine disease. "Am. Jour. of Obstet.," Oct., 1882.
6. CURRIER, A. F.—Eucalyptus globulus in gynæcological practice, together with an account of several cases in which it was used. "Am. Jour. of the Med. Sci.," Oct., 1882.
7. BROWNE, B. B.—On the use of the curette as a therapeutic agent in gynæcological practice. "Obstet. Gaz.," Sept., 1882.
8. MATHELIN.—De la faradisation utérine. 1^{re} partie. "Union Méd.," Sept. 17, 1882.
9. NOTSAG, J. F.—A new process for ligature and drainage in ablation of the uterus through the cervix. "Am. Jour. of Obstet.," Oct., 1882.
10. GERRISH, F. H.—Two successful cases of removal of uterus and appendages. "Boston Med. and Surg. Jour.," Sept. 28, 1882.
11. COE, H. C.—Fibromata and cysto-fibromata of the ovary. "Am. Jour. of Obstet.," July, Oct., 1882.

1. M. S. Danillo records some interesting observations based upon clinical researches in regard to *the frequency of sexual diseases among insane women*. There are two schools of opinion as to the influence of diseases of the genital organs upon the production and progress of insanity and nervous diseases in women. One holds that these diseases are due chiefly to the preponderating influence of physiological or anatomical anomalies of the generative system; the other denies this proposition wholly or in part. Thus, Esquirol makes no definite association of mental and sexual disease. Guislain, however, says that in many insane women the region of the ovaries is the seat of great suffering. Morel believes that primitive disease of the genital organs in women has been the cause of mental alienation in the majority of cases. Falret refers particularly to the menstrual disturbances common among insane women. Other French writers are cited pro and con. Among the Germans, those who believe in the great influence of disease of the sexual organs in producing nervous disease, and in some cases acute mania, may be cited Griesinger, Leidesdorf, Schlager, Ammon, Krafft-Ebbing, and Ripping, while Schüle denies that mental and sexual diseases are linked

together. Emminghaus does not believe in this mutual influence. In the author's individual experience in the clinic of M. Mierzejewski, at St. Petersburg, gynæcological examination, specular and digital, of forty-two insane and three hysterical women, varying from nineteen to sixty-two years of age, gave the following results: Six non-menstruating patients, between forty-four and sixty-two years of age, showed no genital lesions, unless senile atrophy of the uterus might be considered as such. As to the rest, in thirty-five sexual alterations of one sort or another were observed. On the other hand, L. Mayer, in the examination of one thousand and twenty-five gynæcological patients, observed alienation, more or less pronounced, in ninety of them. H. Fuke found the two classes of disease associated in about ten per cent. of cases, and Skene in about fourteen per cent. The disagreement between the findings of the author of this paper and the others quoted is very striking. The author has, consequently, made a series of observations supplementary to those already mentioned. In the course of each examination he endeavored to obtain answers to the following questions: 1, age; 2, variety of mental disease; 3, married

or not, childbirths and miscarriages; 4, variety of disease of the sexual organs. One hundred and fifty-five such examinations were made, which, with those already referred to, gave him two hundred cases as a basis for his inferences. The age was from fifteen to seventy-five. One hundred and forty, varying in age from fifteen to forty-two, menstruated. Sixty, whose ages varied from forty-two to seventy-five, did not menstruate. Thirty-one were unmarried, forty-one were nulliparous, thirty-eight were primiparous, and thirty were multiparous. Of those who were attacked (with diseases of the sexual apparatus) after the menopause, two were unmarried, four were sterile, forty-four were multiparous. Of the forms of mental disease among those who menstruated, there were one case of idiocy, fifteen of epilepsy with mental trouble, eleven of hysteria with insanity, fourteen of general paralysis, thirty-one of chronic delirium, two of chronic alcoholism, ten of secondary dementia, twenty-five of melancholia, five of melancholic delirium of puerperal origin, eighteen of acute mania, and eight of acute puerperal mania. Of those who had passed the menopause, eighteen had consecutive dementia, ten general paralysis, ten melancholia, nine chronic delirium, and three chronic alcoholism. Of the two hundred patients, one hundred and thirty-eight had disease of the sexual organs; in other words, sixty-nine per cent. of two hundred insane women had some form of pelvic disease. Among those who were still menstruating, forty were found to have diffuse endometritis. Disturbances of menstruation—either too frequent or too infrequent appearance—obtained in twenty-eight cases. In forty-four cases there were displacements of the uterus, with associated endometritis in thirty-eight of them, and metritis in twenty; also chronic oöphoritis in five. Four cases of ruptured perinaeum were associated with puerperal mania. Seven patients had elytritis, four had vulvitis. One case of puerperal mania was associated with a large ovarian cyst, one of acute mania with a fibroma uteri, one of papillomata at the urethral orifice with catarrhal vulvitis. In eight there was hyperæsthesia in the ovarian region. These figures show no tendency among insane women to any special form of disease of the genital organs. Before the menopause eighty-four per cent.

had these diseases; of those who had passed the menopause, only twenty-eight per cent. Of forty-eight who had not borne children, forty-two suffered from difficulties of menstruation, mild forms of endometritis, elytritis, etc., while in those who had borne children the diseases were more serious, especially where there had been several children, which seems to show that child-bearing has a manifest influence upon the complication of insanity in the diseases of the genital organs. As to the influence of these diseases upon pre-existing insanity, the author remarks, after referring to the intimate anatomical and physiological relationship between the nervous apparatus of the genital organs and the central nervous system, that all peripheral irritation emanating from the affected organs will react injuriously upon the brain, whose functions are already altered by insanity. Hence we see the truth of the law stated by Maupertuis in the eighteenth century, that Nature arrives at certain very profound results by means of a series of causes very insignificant and little appreciable by themselves. It is the constant peripheral irritation due to sexual lesions, apparently of little importance, which, with predisposing causes, such as morbid heredity, either results in insanity, or, finding it present, tends to exaggerate it.

8. The subject of *uterine faradization* is discussed at length by M. Mathelin, in his communications recently made to the Société de médecine de Paris. He claims for this agent genuine efficiency and absolute harmlessness when properly used. It may be applied when the uterus is empty or when it is gravid, before, during, or after labor. Two principles are to be observed in its use: 1. The uterus must be accustomed to it by degrees. Shock must be avoided by starting the current from zero. 2. The uterus should preserve all its laxity and mobility. It is not necessary that the rheophore pass the internal os. All injury to the uterus must be avoided, and as few instruments as possible should be used. The form of application may be either utero-biabdominal or utero-biinguinal. The negative pole is carefully placed in the cavity of the cervix, and the circuit is closed by applying the two properly covered extremities of a bifurcating wire to the inguinal regions. The current will produce contractions

of the uterus perceptible to the finger which sustains the internal rheophore, in addition to the contractions of the abdominal and pelvic tissues. The sensation to the patient is one of constriction in the region of the pubes, and sometimes actual pain is present. If pain occur, the indication is, of course, to weaken the current. Cramps in both legs may follow as the current descends the branches proceeding from the sacral plexus. There should be three stages to the passage of the current: viz., that of augmentation, that of continuance, and that of decline. The changes should be made very gradually, and the séance continue not more than three minutes. The chief indications for this treatment proceed from the engorgement to which the uterus is subjected, a perversion of a physiological process. A certain contra-indication would be the existence of fever; a tendency to inflammation especially in the utero-ovarian region would only be encouraged by this means. If the application is painful, it is not likely to be of service. When the uterus is fixed by inflammatory material, not much is to be looked for in the way of advantage from this treatment. As a therapeutic agent we are to consider faradization an antiphlogistic, and sedative *par excellence*, in the organic or functional troubles of the non-gravid uterus.

9. Dr. J. F. Notsag recommends a *new process for ligature and drainage in ablation of the uterus through the cervix*. [To begin with, the author fails in that explicitness as to the title of his article which Dr. Billings insisted upon so strongly in his address before the International Medical Congress at London in 1881. "Through the cervix" may mean several different

things.] The author thinks that effective drainage will be accomplished after removal of the uterus by passing a tube through the cervical canal, securing it in position by a ligature thrown around the stump. He thinks the method practicable in cases where the canal will admit of the introduction of a tube with a caliber of a quarter of an inch. The tube should be of silver, one line in thickness, an inch and a half in length, with a depression a fourth of an inch from the upper extremity for holding the ligature. Through holes in the lower end of the tube two loops of silver wire twelve inches long are to be passed. After the uterus has been cut off the tube is to be introduced into the cervical canal, through the vagina, upon a long curved guide made for the purpose, and is to progress as far as the internal os. Then the ligature is to be tied around the stump, passing also into the depression of the tube, and its ends are to be allowed to pass through the tube into the vagina. The vagina is to be plugged with a sponge properly carbolized, which is to be renewed sufficiently often, and the parts are to be otherwise disinfected by suitable injections. When the injections are made, the lumen of the drainage tube is to be closed by means of a sponge tent. As granulation proceeds at the upper end of the tube, the latter is gradually to be drawn down until it is thought expedient to remove it altogether. The author performed the operation as here described upon a mare whose uterus was ruptured during labor, the foal passing into the peritoneal cavity. The operation was perfectly satisfactory in its results, and he thinks it would be worthy of trial upon the human subject.

QUARTERLY REPORT ON GENERAL MEDICINE.

No. XII.

By ALEXANDER DUANE, M. D.,

OF THE HOUSE STAFF OF THE NEW YORK HOSPITAL.

1. CADIAT, O.—Rhumatisme osseux ou ostéite rhumatismale. "Rev. de Méd.," Sept., 1882.
2. OSLER, W.—On echinococcus disease in America. "Am. Jour. of the Med. Sci.," Oct., 1882.
3. PONFICK, E.—Zur Geschichte der Actinomykose. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxvii, 3, 1882.

4. LEROUX, C.—Du paludisme congénital et du rôle de l'hérédité dans l'étiologie du paludisme infantile. "Rev. de Méd.," July, 1882.
5. VERNEUIL.—Contribution à l'histoire du paludisme congénital. *Ibid.*, Aug., 1882.
6. ALMQUIST, E.—Tyfoidfeberns Bakterie. I. "Nord. med. Ark.," xiv, 10, 1882.
7. DESPLATS, H.—Traitement de la fièvre typhoïde par l'acide phénique. "Bull. Gén. de Thérap.," Sept. 15, 1882.
8. LEROUX, H.—Contribution à l'étude de la paralysie diphthéritique. "Rev. de Méd.," Sept., 1882.
9. BIANCHI, A.—Le cause e gli effetti della insolazione. [Riv. sintet.] "Sperimentale," June, 1882.
10. AMIDON, R. W.—The myography of nerve degeneration in animals and man. "Arch. of Med.," Aug., 1882.
11. BENNETT, A. H.—Practical observations on electro-diagnosis in paralysis. "Brain," July, 1882.
12. SMITH, E.—On convulsions in children. "Lancet," July 8, 15, 1882.
13. KRISHABER, M.—La glotte au point de vue des troubles respiratoires nerveux chez l'adulte. "Ann. des Mal. de l'Oreille," etc., Sept., 1882.
14. ROSS, J.—Labio-glosso-pharyngeal paralysis of cerebral origin. "Brain," July, 1882.
15. RUSSELL, J.—Unusual phenomena in locomotor ataxy. "Med. Times and Gaz.," Aug. 19, 1882.
16. LÉPINE, R.—Sur une forme particulière de crises gastriques non gastralgiques dans l'ataxie locomotrice progressive. "Lyon Méd.," Sept. 17, 1882.
17. HADDEN, W. B.—The nervous symptoms of myxœdema. "Brain," July, 1882.
18. DREYFUS-BRISAC.—Chyliform effusions into serous cavities. "Med. and Surg. Reporter," Sept. 9, 1882.
19. CURTIS, H. H.—A simple means of checking pulmonary hæmorrhage with shawl-straps. "Med. Record," Oct. 7, 1882.
20. BALFOUR, G. W.—Arguments in favor of the theory of dilatation of the heart as the cause of cardiac hæmic murmurs, and of the appendix auriculi sinistri being the primary seat of this murmur. "Brit. Med. Jour.," Aug. 26, 1882.
21. BALFOUR, G. W.—Note on the position and mechanism of the hæmic murmur, in reply to the paper by Dr. Russell, of Carlisle. "Edinb. Med. Jour.," Sept., 1882.
22. LÉPINE, R.—Du bruit de galop en général, et en particulier dans la nephrite aiguë. "Lyon Méd.," Aug. 20, 1882.
23. BARR, J.—Reduplication, or doubling, of the cardiac sounds. "Liverpool Med.-Chir. Jour.," July, 1882.
24. LANCEREAUX, E.—Des ictères graves et des hépatites parenchymateuses. [Rev. gén.] "Rev. de Méd.," July, 1882.
25. SABOURIN, C.—Note sur l'oblitération des veines sus-hépatiques dans la cirrhose du foie. *Ibid.*, Aug., 1882.
26. LÉPINE et EYMONNET.—Sur un nouveau signe de l'état graisseux du foie. "Lyon Méd.," Sept. 3, 1882.
27. KIDD, J.—The inheritance of Bright's disease of the kidney. "Practitioner," Aug., 1882.
28. V. WERRA, J.—Über die Folgen des vorübergehenden und dauernden Verschlusses der Nierenarterie. "Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," lxxxviii, 2, 1882.
29. HLAVA, J., u. THOMAYER, J.—Ueber die pathologisch-anatomischen Bedingungen des urämischen Symptomen-Complexes bei Nephritiden. "Med. Jahrb.," 1882, ii.

4. Leroux discusses the question, hitherto little agitated, of the *hereditary transmission of malarial disease*. He has collected a number of cases, some of which apparently illustrate the con-

temporaneous existence of malarial paroxysms in mother and child while the latter is yet *in utero*; others demonstrate the presence of a malarial cachexia, associated, it may be, with en-

largement of the spleen and with melanæmia, in the new-born children of malarial parents; and a third set of cases seem to prove the spontaneous development of chills and fever in infants with similar antecedents. Although these cases are neither numerous, nor in themselves conclusive enough to show that the malarial diathesis can be directly transmitted by inheritance, yet they afford fair presumptive evidence that such is the case. [Leroux's observations are, of course, open to the objection that most of the new-born children who present symptoms of ague are constantly placed amid surroundings where they can readily acquire the malarial taint for themselves, without presupposing the existence of any hereditary tendency. This objection does not apply to a case of Verneuil's, in which the disease appeared in three successive generations, in the last of which no possible source of miasm was detected.]

6. Almquist, in an interesting paper, after reviewing the results of other observers, which in the main tend to prove the existence of *specific bacteria in typhoid fever*, details the results of his own experiments in some twenty cases. He has in general found a small number of these organisms in the blood, but he is inclined to regard their presence in the latter situation as accidental, their true habitat being at the seat of the lesion in the walls of the small intestine. He was able to develop these bacteria by culture methods, and in one case, after inoculating a dog with the culture fluid, succeeded in producing in this animal a disease attended with characteristic intestinal lesions and with the evolution of bacteria resembling those of the specimen from which the culture had been made. He describes six varieties of structures, which probably represent different stages in the development of the same organism. These are: 1, rod-shaped bodies, 1.5 mm. long (spores); 2, thin filiform bodies, 8-20 mm. in length; 3, a mycelium made up of many such filiform bodies; 4, a mass of very finely granular zoöglæa; 5, groups of granules of irregular size; 6, protoplasmic masses of a more or less granular character.

7. In fifty-one cases Desplats has made systematic use of *carbolic acid in the treatment of typhoid fever*. In all of these there was a pronounced febrile movement (temperature rising to 104° and over), and in some the symptoms

attained a considerable degree of gravity. The dosage was what would here be considered as extreme, namely, ten grains every three hours. The chills, sweating, and black urine which followed the administration of the drug in such doses are not regarded by the author as dangerous symptoms, and he maintains that, properly given, carbolic acid will not produce pulmonary congestion, renal disease, convulsions, or collapse. He asserts that after each dose the temperature falls and the nervous symptoms abate, and that after a continuance of the treatment for one or two days the typhoidal apathy is relieved, and the condition of the patient markedly improved. The course of the disease is not shortened. [The use of carbolic acid as an antipyretic and specific remedy in typhoid fever has not in this city been carried to the extent which Desplats recommends, and our experience with it is, therefore, too limited to enable us to speak with authority in regard to the claims which have been made in its behalf. But, while it does seem to have an undoubted effect in reducing the temperature, it hardly seems, even from the statements of its most earnest advocates, to possess advantages which are commensurate with the dangers that others have found to result from its use. The cases which have been subjected to a purely "expectant" treatment, with appropriate supporting measures, show as favorable results as those which Desplats treated with carbolic acid; and, as far as the experience in one of our hospitals goes, the use of the latter agent, whether in an extemporaneous preparation, or in the form made by Déclat, is not effectual in relieving the symptoms of the disease, and has been productive of various inconveniences and accidents (hypodermatic abscesses, etc).]

8. Leroux observed a case in which *ataxia* similar to that which obtains in *tabes dorsalis* had supervened upon an attack of *diphtheria*, and in which there was no paralysis either of sensation or of muscular power, and no alteration in the reaction of the muscles to electricity. He therefore conjectures that the trouble here must be ascribed to some affection of the co-ordinating centers themselves rather than to any peripheral lesion. Very few similar cases are on record.

9. Bianchi has made a fair summary of about a dozen papers by different

authors on the subject of *insolation*, although he has not brought to light much that will be new to readers on this side of the water. He decides, in opposition to some of his authorities, that prostration from the rays of the sun and prostration from the effects of artificial heat constitute essentially the same malady. He goes at some length into a discussion upon the effects which have been observed in animals subjected to a high degree of artificial heat, and upon the deductions which have been drawn from these experiments, as to the true nature of the morbid condition underlying insolation. Some, he says, ascribe the symptoms of insolation to an alteration in the constitution of the blood (loss of oxygen, increase of carbon dioxide, presence of urea, an excessive degree of acidity, the development of gas in the blood, the formation of clots, the loss of water, an increase in the total volume of the blood); others believe these to be due to nervous disturbance (paralysis of the brain and medulla, paralysis of the pulmonary and cardiac nerves, compression of the brain by the excessive inflow of blood or the cerebro-spinal fluid, cerebral oedema, arrest of the capillary circulation of the brain); while a third set of observers regard the whole disorder as dependent upon tetanus of the muscles and coagulation of the myosin, producing rigidity. All these speculations are probably partial expressions of the truth; but it would be unreasonable to suppose that any one of these lesions is present in all cases, especially when it is remembered what a variation in degree and character of symptoms the disease may possess. This variation is seen in the classification which the author makes of the cases into light and grave. The former comprise cases of dermatitis (pellagra), caused by exposure to the sun, these varying in intensity from a simple erythema to a suppurative process, and being either acute or chronic in course; and also those milder forms of febrile excitement called by Cullimore solar fever. The grave cases may assume either a syncopal, an apoplectic, or a febrile type. Bianchi remarks—what is certainly not always the case—that a temperature of 43°–44° C. [109°–111° F.] is the invariable signal of a fatal termination. His remarks on prophylaxis and treatment contain nothing that is particularly new.

13. *The nervous affections of the larynx* in the adult are classified as follows by Krishaber: 1. Idiopathic spasm of the laryngeal muscles, the "laryngeal vertigo" of Charcot. 2. Idiopathic paralysis, bilateral or unilateral. [The author draws a careful distinction between paralysis, which is comparatively rare, and immobility of the laryngeal muscles, which may be due to a great variety of structural changes.] 3. Symptomatic paralysis or spasm occurring either in the course of hysteria or as a premonitory symptom of locomotor ataxia, or as the result of pressure upon one or both recurrent laryngeal nerves. 4. Irritative spasm due to the presence of foreign bodies, polypi, etc. Paralysis and spasm frequently occur conjointly; and, in any case, it is often difficult to say whether the symptoms are referable to the one or the other of these conditions. In paralysis it makes the greatest difference in the symptoms according as the trouble is old or recent, unilateral or bilateral, incomplete or complete; and it is a curious fact that in incomplete paralysis the symptoms may be more severe than when there is complete loss of power, for, if the abductors alone are affected, the action of the adductor muscles will tend to approximate the vocal cords and produce a condition resembling that of spasm. In true spasm, closure takes place both at the glottis and at the supra-glottic orifice; and the disposition of the parts is such that the inspiratory current tends to approximate them still more closely, while the expiratory current finds an easy outlet. In this way the peculiar character of the breathing in so-called spasm of the glottis is readily explained.

14. Ross reviews a number of cases of *labio-glosso-pharyngeal paralysis* which were found to depend upon cerebral lesion, the medulla being intact. The site of the lesion was in some instances cortical, in other cases in the substance of the hemispheres; and in the latter case the lenticular nuclei were uniformly found to be the parts affected. This circumstance is explained by Meynert on the ground that the lenticular nucleus is a ganglion of interruption between the cortical centers and the medullary nuclei; but Ross is rather inclined to regard it as due to an interference with the direct channel of communication

existing between the medulla and the cortex.

15. In one of Russell's cases of *locomotor ataxia* what appeared to be gastric crises were developed two years before the advent of any other symptoms. In the second case, about a year after the first symptoms of the disease, there was necrosis of the phalanges of both great toes, and afterward periostitis of the terminal phalanges of the second toes. The symmetry of the lesions is worthy of remark as pointing to a central origin.

16. The symptoms attending the *gastric crises of the pre-ataxic stage of locomotor ataxia* are usually those of a gastralgia, and not of primary gastric irritability, the pain being by far the most prominent symptom, and the emesis being a secondary phenomenon, and one that is occasionally absent. Lépine, however, has observed some cases in which the pain was absent, and the gastric symptoms were confined to an extreme intolerance of food. In one case this irritability was so excessive that even a drop of water would be rejected instantly, and this condition persisted for two weeks.

17. The principal *nervous symptoms observed in myxædema*, according to Hadden, are sluggishness and inco-ordination of the voluntary movements, diminution in the intensity and retardation in the reception of sensory impressions, the presence of fornication and other dysæsthesiæ, the occurrence of disturbances of all the special senses, a proneness to fatigue on slight exertion and a tendency to somnolence during the day and to unpleasant dreams at night, severe headache, mental lethargy, emotional disturbances, and mental instability, amounting sometimes to actual insanity. These symptoms, as well as the more striking objective features of the disease—the solid œdema of the skin and connective tissue, the decrease in the size of the thyroid gland, the subnormal temperature and the diminution in the rate of tissue metamorphosis—are all explainable, according to the author, upon the ground of a primitive general angiospasm, both of the blood-vessels and of the lymphatics, producing in the former case a condition of imperfect nutrition and low vitality in all the tissues, and, in the latter, universal lymphatic obstruction, with a subsequent myxoid degeneration of the accumulated products. The se-

verer cerebral symptoms are dependent upon a secondary degenerative change taking place in the brain substance itself. The essential lesion of the disease, upon which the generalized vasomotor spasm depends, is probably seated in the peripheral sympathetic system, which, as is well known, has so much to do with the regulation of the vascular caliber, and perhaps there may be an additional lesion affecting the great vaso-motor centers of the medulla oblongata.

20. Balfour adduces various arguments to prove that the *cause of so-called hæmic or blood murmurs* is seated in an actual dilatation of the heart, and especially of the left auricle. Experiments upon animals who are bled profusely show that an anæmic murmur does not develop till the original volume of blood has been more than made up by an addition of serum, so that the condition productive of a murmur is not properly one of anæmia, but rather of spanæmia, or, as some choose to call it, serous polyæmia. In this state, the cardiac muscle being relaxed and the volume of blood increased, a certain amount of dilatation is inevitable. The current of blood regurgitating through the dilated mitral orifice sets the relaxed auricular wall into vibration, and thus produces a murmur. The tricuspid orifice is then affected, and jugular pulsation and a venous bruit are the consequences. In this way the usual mitral site of the murmur is accounted for, as well as the pulsation which is often quite appreciable over the base of the heart, and which is sometimes so pronounced as to lead to the diagnosis of aneurism. In this way, too, is explained the peculiarity in the conduction of the bruit—a peculiarity difficult to understand if, as some suppose, the aorta is its seat of origin; and if, as others believe, the bruit originates in the pulmonary artery, there seems to be no good reason why the aorta should not be affected as well. The dilatation of the right ventricle accounts for the obscuration of the apex-beat so common in these cases; for here an additional mass of cardiac substance is interposed between the chest-wall and the apex of the heart. — Allbutt, in commenting upon Balfour's paper, agreed with him in this, that cardiac dilatation was much more common than was ordinarily supposed, and that the lighter forms

were to be regarded as readily curable affections. Others, who criticised the author's views, maintained that the pulmonary artery was the seat of the anæmic murmur, and argued that cardiac dilatation and auricular pulsation were not frequently observed in these cases. [Attention has several times of late been called to the frequency of transient and curable cardiac dilatation. Heitler, in particular, has described several cases of this sort. (See last Quarterly Report.) Fothergill also has met with curable forms of cardiac dilatation. The ascription of anæmic murmurs to the effect of such a dilatation is not altogether new. Scheperlin has advanced a theory very similar to that of Balfour. It is curious that just the converse of this theory is held by some pathologists—namely, that the anæmic murmur is due to the *contraction* of the heart consequent upon the *diminution* in the total volume of circulating blood. The mechanism of the production of a bruit on this hypothesis, as shown by experiments of Chauveau, is found in the fact that a musical sound is developed when a circulating fluid passes from a constricted to a dilated portion of the closed tube in which it is confined; in this case, from the contracted ventricle to the expanded aorta. The same mechanism might, however, be invoked to account for the production of a murmur by the passage of the blood from the contracted pulmonary veins to a dilated auricle.]

24. Lancereaux discusses at length the subject of *icterus gravis*, first taking up the idiopathic form of the affection, which may occur epidemically, and has been denominated "typhoid jaundice." This latter affection occurs most commonly in the late summer and in the autumn, and can generally be found to depend upon miasmatic influences. It is a constitutional disease, characterized, according to the author, by a local lesion of the glandular secretory substance of the liver, without any involvement of the interstitial connective tissue or of the biliary ducts. The latter circumstance is inferred from the fact that the fæces retain their normal color. The invasion of the disease is rapid, the patient passing speedily into a state of prostration, in which he presents all the appearances of a man severely ill with typhoid fever. The chief symptoms, in addition to the jaundice, are marked headache, chills and eleva-

tion of temperature, vomiting, severe and persistent muscular pains, epistaxis frequently, and less often hæmorrhages from various parts of the body. The urine is scanty, contains bile-pigment, and is usually albuminous. The liver is enlarged and tender, and the spleen also is increased in size. The disease usually runs its course in from seven to nine days, although relapses are frequent, prolonging its duration to two, three, or even four weeks. In fatal cases death usually occurs at the end of the first week. Convalescence is slow. The effect of quinine upon the course of the disease is well marked, and this fact would seem to confirm the theory of a miasmatic origin. ——— The author also touches upon the symptomatic form of *icterus gravis*, which is observed in connection with yellow fever and phosphorus poisoning, and also as an occasional complication of typhoid and typhus fevers, pneumonia, septicæmia, etc., but he adds little to what is already known upon the subject.

[The tendency of late years has been to do away with the minute pathological distinctions which have been supposed to exist between the lesions of idiopathic *icterus gravis* attended with atrophy of the liver (acute yellow atrophy) and those of yellow fever and of phosphorus poisoning. According to most authors, the lesions common to these several conditions are not confined strictly to the glandular substance of the liver, as Lancereaux asserts, but involve, to a variable degree, the interstitial connective tissue, and probably the biliary canaliculi as well. And Weyl, in 1878, while administering phosphorus to animals, was able, by varying the dose, to produce at will either markedly interstitial or purely parenchymatous changes in the liver. Again, the hepatic lesions found in two cases of yellow fever by Lébrédo are almost identical with those of acute yellow atrophy; and even Griesinger, who maintained that these two diseases were of an essentially different nature, had to admit that there was no diagnosing them if occurring under the same climatic conditions (Mathieu, "Arch. Gén. de Méd.," 1880). It would seem, therefore, that the essential cause of yellow fever, acute yellow atrophy, and idiopathic *icterus* without liver atrophy, must exert precisely the same effect upon the hepatic tissues that

phosphorus does, while it differs from the latter in exciting febrile and other general constitutional disturbances. What this essential cause is—whether it is a cholæmia, a cholesteræmia, or a uræmia, or, as seems more likely, a bacteræmia—and whether the cause is really identical in all these affections—is, of course, quite uncertain.]

27. Kidd mentions a curious case in which a patient suffering from *Bright's disease* had two brothers, nine (out of twelve) children, and two grandchildren who were affected in the same way.

QUARTERLY REPORT ON MATERIA MEDICA, THERAPEUTICS, AND TOXICOLOGY.

No. XI.

By GASPAR GRISWOLD, M. D.

1. BARTHOLOW, R.—The influence of dose on the physiological and therapeutical action of remedies. "Med. News," Aug. 26, 1882.
2. RINGER, S., and SAINSBURY, H.—On the individuality of action of the component parts of a drug. "Practitioner," Aug., 1882.
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4. WOOD, H. C., and REICHERT, E. T.—A contribution to our knowledge of the action of certain drugs upon bodily temperature. "Jour. of Physiol.," iii, 5-6, 1882.
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6. BYRD, H. L.—Cactus grandiflora in subacute and chronic rheumatism. "Phila. Med. Times," Aug. 26, 1882.
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9. MACKENZIE, G. H.—The continuous local medication of the lungs in phthisis. "Practitioner," Aug., 1882.
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16. GIURLEO, N. P.—Sugli stimmi della ditana digitifolia. (Galattoforo.) "Giorn. Internaz. delle Sci. Med.," iv, 2, 1882.
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18. TANRET, C.—Sur la convallamarinine, principe actif du muguet. "Bull. Gén. de Thérap.," Aug. 30, 1882.
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20. ESTORC, A.—Note sur l'action des courants continus étudiée au double point de vue physiologique et pathologique. "Arch. de Neurol.," Sept., 1882.
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22. WILLIAMS, F. H.—A study of the action of iron. "Med. Com. of the Mass. Med. Soc.," xiii, 1, 1882.
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28. SEMMOLA, M.—Del iodoformio nella cura delle affezioni bronco-pulmonari e piu specialmente della bronco-alveolite caseosa. "Giorn. Internaz. delle Sci. Med.," iv, 7-8, 1882.
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33. POLO, L.—Le procès de l'iodoforme. [Corresp.] "Union Méd.," Sept. 30, 1882.
34. WEIST, J. R.—Alarming symptoms resulting from eight grains of potassium iodide. "American Practitioner," Oct., 1882.
35. DAVIDSON, A.—Fatal case of poisoning by ergot of rye. "Lancet," Sept. 30, 1882.
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11. M. Huchard, after investigating the action of caffeine in cardiac disease, arrives at the conclusion that it is useful in many ways, and in exceptional cases even more efficient than digitalis. It acts more rapidly than digitalis, diuresis often resulting within twelve or twenty-four hours from the commencement of its administration. Caffeine is free from many of the disadvantages which attend digitalis; it is not cumulative under any circumstances, and does not upset the stomach (unless hepatic disease, as cirrhosis, co-exists). In cases of fatty heart, where digitalis is contra-indicated, caffeine does unquestionable good, and may be given with entire confidence, for it will not in any case do harm. In extreme cases where digitalis has been administered for a long time, and is beginning to lose its good effect, a new lease of life may follow the substitution of caffeine for that drug. Albuminuria dependent upon cardiac insufficiency is quickly relieved by caffeine; albuminuria dependent upon renal disease is much less influenced by it. Caffeine has hitherto been used in too small doses; four, five,

or even ten grains should be given five times daily, if necessary, to produce the desired effects. The author has employed hypodermic injections of caffeine, but in too few instances to draw any very reliable inferences. In all cases he employs caffeine itself, and not any of its salts. The author emphasizes his opinion that, although digitalis is the first of cardiac medicines, and will probably continue to be, still, in many cases where it does not act satisfactorily, or where its effect is beginning to wear off, the most gratifying results may follow the administration of caffeine in sufficient doses.

13. Dr. Fenwick, in a paper on *venesection in heart disease*, relates that his attention was forcibly called to the subject by observing the benefit which attended a copious epistaxis in a patient almost moribund with mitral stenosis. Following up the matter, he feels convinced that in stenotic lesions great benefit is to be derived from occasional blood-lettings; in lesions of incompetency the author believes fatty degeneration to be more prominent and to come on earlier, and on this account is

disinclined to bleed. Even in the latter class of cases, however, venesection may do good in emergencies, but should be repeated as infrequently as possible. The author gives histories of cases which give clinical support to his propositions, and sums up his conclusions as follows: 1. In cases of valvular stenosis, if dyspnoea, or pain, or any urgent symptoms be present, bleeding is generally useful; and it appears to be better to bleed often, if necessary, but to take only a small quantity each time, and this, by means of leeches or cups, directly from the cardiac region. 2. In cases of valvular incompetency, if urgent dyspnoea, or cyanosis, or stupor be present, it appears best to bleed freely from the arm to sixteen ounces if necessary, but to avoid repetition. 3. In cases of acute endocarditis or pericarditis the attack may possibly be cut short by freely cupping the cardiac region at once. 4. In cases of cardialgia without any evident cause, leeching or cupping over the heart's area will probably give relief.

14. Professor P. C. Plugge, in a paper on the *action of aconitine and pseudo-aconitine upon muscles and nerves*, states that: 1. Aconitine and pseudo-aconitine paralyze the peripheral ends of the motor nerves in a manner similar to *curare*. 2. The nerve-trunks are not affected by these alkaloids. 3. Aconitine and pseudo-aconitine have little or no effect upon sensory nerves. 4. The author does not believe that aconitine and pseudo-aconitine have any action upon the central nervous system, as was asserted by Boehm and Wartmann; the author believes that all the symptoms of aconite are due to effects upon peripheral nerves. 5. In poisoning with aconitine and pseudo-aconitine, the muscular excitability remains intact until doses have been given five times as large as are necessary to paralyze the peripheral nerve-endings. 6. The author denies that the effect of aconitine upon muscular tissue is similar to that of veratrine, as has been stated by Weyland. The author's experiments were all performed upon frogs, and all details were carefully observed; the number of experiments was very large.

[If aconite affects merely motor nerves, like *curare*, having little or no effect upon sensory nerves, and if the drug has no effect upon the central nervous system or nerve trunks, whence come its anodyne properties, which are

certainly more marked clinically than any influence upon motion? In the very careful experiments of Liégeois and Hottot it was found that the first effect of aconitine was upon the peripheral sensory nerves, causing numbness and loss of reflex excitability; and that, long after reflex movements could no longer be excited, prompt muscular contractions followed stimulation of the motor nerves. This certainly seems to show a sensory paralysis commencing at the periphery and creeping toward the centers, until sensation can no longer be excited; during all this time the motor nerves are normal, and only become affected long afterward and when very large doses have been administered. The experiments of Boehm and Wartmann support these conclusions; and it may be mentioned that all the experimenters quoted used frogs, as the author did. The author's experiments, careful as they may have been, certainly give results entirely at variance with previous experience, and altogether incompatible with our knowledge of aconite from a clinical standpoint. The title of the paper suggests a comparison between different forms of aconitine; this expectation is not realized beyond a statement that a French aconitine by Petit was the strongest experimented with, and a preparation by Friedländer the weakest. The conclusions apply to aconitine in general, not to any special preparation.]

15. In a very interesting paper on the *preparations of aconite*, Dr. Squibb enumerates as being now in use a powder, fluid extract, extract, and tincture of the *dried leaf*, and an extract of the *green or undried leaf*; and from the *dried root* a powder, extract, fluid extract, and four tinctures of different strengths. In addition, there are in the market four very different *aconitias*, or *aconitines*: 1, ordinary aconitia, sold by manufacturers in this country; 2, Merck's aconitia, from *aconitum napellus*; 3, Merck's aconitia, from *aconitum ferox*, or "Himalaya root"; 4, a preparation called aconitine, put up by Duquesnel, of Paris. The prices of these aconitias, in the order given, are \$14, \$13, \$40, and \$105 an ounce. It is the general object of this paper to ascertain the relative strengths of these various preparations, and to compare them so that equivalent doses may be known and the dangerous confusion be

cleared up which at present prevails. In order to do this, a standard of strength must be adopted by which to measure all preparations. The best standard would seem to be the proportion of aconitia; but aconitia is present in such very small quantity that no process of assay is practically applicable, and, moreover, aconitia as met with is quite as variable as the preparations of aconite. The author has decided to adopt as a criterion the stinging and tingling sensation, known as the "aconite sensation," which is produced when a solution containing aconite is taken into the mouth. The author considers a well-made fluid extract of the root, obtained by repercolation with alcohol alone from good root, to be the best preparation. Each parcel of it as bought by the pharmacist or physician should be tested as follows: One tenth of a minim should be dissolved in a fluidrachm of water and held in the anterior portion of the mouth for one minute by the watch, and then spit out. No immediate sensation will be felt, but within ten minutes a distinct aconite sensation will be felt, and will last for from a quarter to half an hour. Of course, the mouth should be well rinsed before the test is applied. Any good fluid extract of aconite root should stand this test. When one is met with which does not stand it, it may be systematically diluted to a less degree until the sensation is reached, and then the amount of dilution will approximately measure its shortage in strength. Following out this method, Dr. Squibb estimates the strength of the different preparations by diluting and testing, as described in the case of the fluid extract of the root; he then takes the latter as a standard or unit and compares the other preparations with it, and develops a scale. It is an argument in favor of the "aconite sensation" as a test of preparations, that the commercial method of selecting good root is to bite off a small fragment and chew for a few minutes between the front teeth, rejecting those samples which do not produce the "aconite sensation." It seems fair to take as a test of preparations what has been adopted as a test of original crude materials. Dr. Squibb deduces the following table of relative strengths, in which one minim of the fluid extract of the root (equal in strength to one grain of the pow-

dered root) is taken as equal to, respectively:

Alcoholic ext. of aconite root.....	$\frac{1}{2}$ grain
U. S. P. tincture " "	2.66 minims
Br. P. " " "	8.43 "
German P. " " "	11.8 "
Fleming's " " "	1.5 minim
Powdered aconite leaf.....	9 grains
Fluid ext. of " "	9 minims
Alcoholic ext. of dried aconite leaf.....	1.5 grain
English ext. of fresh leaf (Allen's).....	1
Tincture of aconite leaf.....	72 minims

From this table it appears that the preparations of the root are nine times as strong as the corresponding preparations of the dried leaf. If one minim of the fluid extract of the root be taken as a commencing dose, the columns represent the equivalent doses of all these preparations, provided they be well made from good materials. Comparing the four aconitias, Dr. Squibb deduces the following ratio: One grain of aconite root, or one minim of the fluid extract of the root, equals 1 grain of ordinary aconitia, $\frac{1}{3}$ grain of Merck's aconitia from aconitum napellus, $\frac{1}{3}$ grain of Merck's aconitia from aconitum ferox ("Himalaya root"), $\frac{1}{11}$ grain of Duquesnel's aconitine. According to this, ordinary aconitia (from which oleates, etc., are made) is no stronger than the powdered aconite root, and is 111 times weaker than the aconitine of Duquesnel. The last preparation is crystalline, the other aconitias being apparently amorphous. Dr. Squibb considers Duquesnel's decidedly the best, and says that no aconitia or aconitine should be accepted which does not give the "aconite sensation" as described when $\frac{1}{810}$ of a grain is diluted in a fluidrachm of water. The aconitine of Duquesnel gives the "aconite sensation" when $\frac{1}{1000}$ of a grain is diluted in a fluidrachm of water. The dose of such aconitia should be about $\frac{1}{100}$ grain in about half an ounce of water, three times daily, and always on an empty stomach; $\frac{1}{200}$ of a grain may be given every three hours. Neuralgias are best treated by the dermic method, an oleate of aconitia being used; this is made by dissolving one grain of aconitia in fifty minims of oleic acid, and is applied, a minim or two at a time, without friction, and great care being taken that it may not get into the eye. This oleate is absorbed, and acts constitutionally as well as locally.

16. Professor Giurleo recommends the Brazilian plant *ditana digitifolia* as a *galactagogue*. The drug was origi-

nally recommended as a diaphoretic and diuretic, but in these respects it is inferior to many remedies in general use. The author makes a tincture of the herbaceous portions and flowers, five ounces in 250 grammes (eight ounces by weight) each of alcohol and sulphuric ether. He then dissolves eight pounds of white sugar in two quarts of boiling water, and adds the syrup, when cool, to his tincture. From one to three tablespoonfuls of this preparation should be added to a pint of water, or to the same quantity of infusion of chamomile flowers, and taken during the day in frequent small doses. The author has tested the treatment in a maternity hospital, and recommends it very confidently. It causes no digestive disturbance.

17. M. Sée, in a paper entitled "A New Cardiac Medicine," details a series of experiments and therapeutic applications undertaken to determine the properties of the *convallaria maiialis*. He classes it with digitalis, erythrophileum guinense, and other cardiac stimulants which stop the heart in systole in toxic doses. An aqueous extract of the whole plant, in doses of from fifteen to twenty grains daily, slows the heart, restoring its regularity and increasing its force; arterial tension is increased, respiration is somewhat stimulated, and sensations of dyspnoea are relieved. It is an efficient diuretic, especially in dropsies of cardiac origin. It is particularly indicated in cardiac palpitation and irregularity, with or without valvular lesions; in cases of valvular lesion it is generally useful, but seems in some way to be less efficient in cases which are distinguished by a marked tendency to dyspnoea. It seems to have no contra-indications, not disturbing the nervous system or digestive organs; being rapidly eliminated, it has no tendency to cumulative action. In these respects it has advantages over digitalis.

19. Dr. Lewis Shapter speaks very highly of *pulsatilla* as a nervous sedative. He considers it a good adjuvant to potassium bromide. He has used it with especial success in nervous disorders of reflex origin, such as disturbances dependent upon dysmenorrhœa, facial neuralgia from decayed teeth, etc. He employs a tincture of the herb, two ounces to the pint of alcohol; he commences with a dose of ten minims, which he gradually increases to

half a drachm, if necessary. Too large doses may cause nausea and vomiting, and even moderate doses may cause griping and abdominal uneasiness; in these cases a few drops of spiritus chloroformi may be added to the prescription with advantage.

26. Dr. Snel describes a case of *peculiar idiosyncrasy as to mercury*, pyrexia being immediately induced even by small doses. The patient was suffering from iritis, and a small dose of the bichloride of mercury was ordered three times daily. Within twenty-four hours there were vomiting and purging, with great prostration; the temperature rose to 104°. The mercury was stopped, when the patient rapidly recovered, the temperature falling to normal within twenty-four hours. This occurred on the 8th of November. On the 20th of December, the patient having regained her strength and the iritis still persisting, the bichloride was again tried in small doses. Again vomiting, purging, and pyrexia followed at once, ceasing when the mercury was stopped. On the 15th of January small doses of hydrargyrum cum creta were tried, but were again immediately followed by the same train of symptoms. The conclusion seems plain to the author that the pyrexia observed was, in each instance, due to the mercury. [It is well known that in many individuals a tendency to pyrexia is observed in connection with any degree of gastro-intestinal irritation, similar to what is the rule in very young children. Since very marked purging and vomiting, with sensations of great illness and prostration, were present in each of the three attacks described, may it not be that the pyrexia was the immediate result of gastro-enteritis, rather than of the mercury *per se*? And might not pyrexia have been present in the same degree if the irritant had been shell-fish or some other substance which disagreed with the patient, instead of mercury? A rise of temperature is certainly not rare in cases of toxic gastro-enteritis with symptoms as severe as those which the author describes as occurring in his patient.]

27. Dr. von Hoffer, in a paper on the *numerical relations of the red blood corpuscles during the subcutaneous administration of iodoform*, says that his investigations were first suggested to him by a paper of Wilbouchewitsch's on the influence of mercury upon the

blood. Wilbouchewitsch found that the continuous administration of mercury to dogs steadily diminished the number of red blood corpuscles; given to syphilitic patients, it caused at first an increase in the number of red blood globules, but, if continued too long, these again began to diminish in number, and anæmia resulted if the treatment was persisted in. The author took three dogs and put them under favorable conditions; their body weight was taken and their blood was examined, the number of red corpuscles to the cubic millimetre being counted with Malassez's appliance. To two of them iodoform was daily administered subcutaneously suspended in oil; at first a grain and a half daily, afterward three grains. This treatment was continued for a month, the blood being examined and the corpuscles counted every few days. At the end of this time both dogs had lost weight, and had suffered a great diminution in the number of red corpuscles. The remaining dog, kept on the same food as a test, had gained weight, and had a normal proportion of corpuscles. It was therefore established that the subcutaneous administration of iodoform continued for several weeks caused a diminution in the number of red corpuscles and a loss of weight. The author then selected two patients suffering from tertiary syphilis, and gave to each, by subcutaneous injection, seven grains of iodoform, in emulsion with glycerin, daily for four days. On the fifth day the dose was raised to fifteen grains, and continued for six days more. The dose was then increased to twenty-two grains daily for a few days. In both cases, while iodoform was being administered, the blood corpuscles were observed to increase at first until anæmia had disappeared and the normal proportion had been nearly reached; when the dose of iodoform was increased and still continued, it was observed that after a while the number of blood corpuscles began again to diminish. These results are seen to be identical with those obtained with reference to mercury. In itself, iodoform acts destructively upon the corpuscles of healthy blood, but upon the blood of syphilitics it acts first as an anti-syphilitic, at the same time increasing the number of blood corpuscles. Subsequently, when the syphilitic poison has been largely destroyed and the blood restored nearly to normal, iodoform be-

gins to act destructively, as upon healthy blood. The author notes that in the two cases described the patients were promptly cured of the ulcerations from which they were suffering when they applied for treatment. He does not allude to any disturbance, digestive or nervous, which rendered any interruption of the treatment necessary; his only indication to suspend the administration of iodoform was the anæmia that was developing again under its use.

30. Dr. Benzan reports good results from the treatment of diphtheria with iodoform. He applies the iodoform in powder, pure, with a camel's-hair pencil, the patch of membrane to be treated having first been freed from mucus with a douche or with another camel's-hair pencil. He is careful that the iodoform shall cover the whole patch, and yet is equally careful that it shall not be applied in excess so as to be swallowed. The iodoform is applied eight times in the twenty-four hours—six times during the day, at intervals of two hours, and twice during the night. The success of treatment depends upon the efficiency with which these directions are carried out. The author contends that no treatment so effectually suppresses fœtor and avoids general septic infection. Six severe cases of diphtheria were successfully treated by him, and he looks forward to better results than he has been able to obtain by other methods.

31. Dr. Clark introduces the subject of the *poisonous effects produced by the topical use of iodoform* with an account of a case in which grave poisoning followed the introduction of five grains of iodoform into a sinus every other day. The patient was a boy fourteen years of age, suffering from a sinus of the left groin, the result of a chronic abscess in front of the hip joint. Pressure and washing with carbolyzed solution having produced very little improvement, the sinus was treated by washing it out with an ethereal solution of iodoform and introducing into it every other day a bougie containing five grains of iodoform. After a few days of this treatment the boy began to suffer from depression, was nauseated, and vomited everything that was introduced into his stomach. The pulse was feeble, and from 130 to 160 a minute. There were apathy and frontal headache, but never delirium. There was fever, at times as high as 103°, but very irregu-

lar, and with a very marked remission toward morning. There was no diarrhœa or iliac tenderness; the vomiting was very persistent throughout. As soon as the symptoms were remarked, the treatment with iodoform was suspended. In about three weeks from the commencement of the attack the temperature became normal and the patient recovered. The author remarks that cases of poisoning with iodoform have certain features in common, viz.: Very irregular pyrexia, with unusually marked remissions toward morning; accompanying this are remarkable weakness and rapid action of the heart. Nausea is always conspicuous, as is apathy, and sometimes even delirium. An urticaria has been described in some cases. In the cases reported by the author, iodine was not present in the urine, nor was albumin found, nor casts, although these are all frequently present in the urine of patients undergoing treatment with iodoform, even when no toxics symptoms are present.

[One can not read the history of the author's case without being inclined to the conclusion that the symptoms described can scarcely be attributed to the very small quantities of iodoform employed—at least not with sufficient certainty to justify the case being taken as typical and used as a text. It is the usual custom, among German surgeons at least, to pack an ounce or more of iodoform into a wound, and then to close the wound with sutures, leaving the iodoform to be removed by absorption and excreted principally by the

kidneys. In view of the fact that this treatment has been attended with the best results, and has been almost universally approved, it does not seem fair or reasonable to attribute the symptoms described in the author's case to the iodoform which was employed, especially since such small quantities were used that no iodine appeared in the urine. It is to be regretted that, in spite of a number of instances of poisoning with iodoform which have been reported on good authority, no diagnostic symptoms of the condition have been decided upon which are sufficiently clear to prevent mistakes. The presence of iodine in the urine in large quantities does not help us as the black urine of carbolic-acid poisoning does, for iodine is always present in the urine in large quantities in cases where a great deal of iodoform has been used, even when the patients are progressing favorably. The author neglects to mention mania among the toxic effects of iodoform, although a sufficient number of cases have been reported to give good reason for its consideration in this connection.]

36. Dr. Hinton advises *sassafras root* in poisoning by *rhus toxicodendron*. He has used it upon himself, and in the cases of a great many patients, and prefers it to all other remedies. A strong infusion is made of red sassafras root, allowed to cool, and then applied frequently by means of cloths wet in it. Recovery may be expected within twenty-four hours.

QUARTERLY REPORT ON DERMATOLOGY, SYPHILOGRAPHY, AND GENITO-URINARY DISEASES.

No. XII.

By EDWARD BENNET BRONSON, M.D.

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2. Paget's description of an *eczema-like condition of the nipple that tends to cancer*, and that was regarded by Paget as a sufficient indication for early excision, appears to have given rise to a certain degree of confusion in the minds of practitioners, as well as of those who

have since written upon the subject. The result is that a long-continued eczema of the nipple is very likely to be regarded as pretty certainly cancerous. As showing how incorrect such a view may be, the case described by Napier is interesting. A patient had suffered

with a chronic eczema of the breast for two and a half years. Its general features corresponded closely enough to some of the descriptions that have been given of "Paget's disease." Yet it was entirely healed by local treatment in about a month's time, and did not recur. The writer calls attention to the great disparity that prevails in the different descriptions of Paget's disease. Sometimes it is represented as having purely the character of common eczema, and it may be either of the squamous, fissured, or oozing variety. Again, others describe it as showing ulceration, with eversion of the edges and destruction of the nipple. Napier discovers in these different descriptions three forms of disease, to wit: eczema, cancer, and a third form of disease, which, while "simulating eczema," is "associated with, or closely followed by, true malignant disease of the breast." The difficulty in diagnosis concerns only this last form. As shown by the writer's case, the duration of the disease is not sufficient evidence of malignancy. The differential points upon which stress is laid are: "A well-defined overlapping margin, forming a veritable ridge, with a sulcus behind it," "a raw, red surface," and "rebelliousness to treatment." These features, the writer thinks, should be sufficient to make the case so suspicious as to warrant excision.

With a view to showing how eczema may lead to cancer, Napier refers to the views of Busch. This writer claims that, when the corneous layer of the skin is too rapidly formed and not readily exfoliated, it acts as a mechanical obstacle to shedding of rapidly formed corneous epithelium, preventing its progress outward, and forcing it to grow inward through the connective tissue. Hence Napier believes it important to keep the crusts and scales as far as possible from forming. To this end he enjoins free use of alkaline lotions. [Were the view above expressed sufficient to account for the development of cancer, why should we never find the patches of an inveterate psoriasis undergoing malignant degeneration? Moreover, we should expect, in accordance with the theory, that the squamous form of eczema would show a greater liability to cancer than other varieties of eczema. The weakness of the theory lies, it seems to us, in attaching so much importance to a purely mechanical effect while ig-

noring entirely the influence of irritation.] From statistics given by the writer, it would appear that the connection between cancer and eczema of the nipple is not of very frequent occurrence. Thus, out of three hundred and five cases of cancer of the breast collected by Morris, only one was preceded by eczema of the nipple, and of eight cases of eczema of the nipple not one was followed by cancer. Furthermore, eczema of the nipple, excepting during the period of lactation, is rare. Napier observed it in only two out of seven hundred and four cases of eczema of different regions of the body.

17. Berkley Hill describes a case of *herpes of the tongue* that was accompanied with enormous swelling that rendered speech and deglutition impossible. It was supposed to be the effect of irritation of the chorda-tympani nerve, which latter was due to the presence of an aural polypus.

18. Livingston's case of *congenital ichthyosis* is very carefully reported, and the rarity of the disease makes the contribution a valuable one. The results of the microscopical examination did not differ materially from those heretofore obtained. They were interesting chiefly from the fact that the general distribution of the disease enabled the writer to observe variations in the microscopical appearances at different points. Thus, while upon the scalp the rete was found markedly involved, with new formation of cells, upon the abdomen the rete and papillary layer were unaffected. It is to be noted, however, that upon the abdomen the thickened scales had been loosened, and the condition here may have represented a more advanced stage of the disease, in which exfoliation had taken place, and the subjacent cutaneous strata had resumed their normal state. Some little confusion arises in the writer's description from his applying the term corium to what is usually known as the corneous layer of the epidermis. [Under the name of "congenital keratomatous degeneration of the epidermis," the leading features of the case have already been described in this journal. (See the October number, p. 408.)]

21. The pathology of the peculiar growth that sometimes affects the nares, which was described first by Hebra, and by him named *rhinoscleroma*, has never been definitely settled. Hebra and Kaposi have regarded it as a form of neo-

plasm, while others—Geber and Mikulicz, for example—have maintained that it was of the nature of a chronic inflammation. Von Frisch, the latest investigator in this connection, adheres to the latter view, but, going beyond his predecessors, claims to have discovered the probable cause of the inflammatory process in the presence of bacteria. They were found, for the most part, in the round cells which constitute the mass of the disease tissue. Their form was that of short rods, their length being only once and a half as great as their breadth. Usually they were arranged in twos. They were visible only with high powers ($\frac{1}{30}$ immersion). These little bacilli lay almost exclusively within the cell wall, though occasionally they were found in the interspaces of the connective tissue and between the cells. The large, swollen cells, regarded by Mikulicz as cells undergoing retrograde metamorphosis with "dropical" degeneration, contained the bacteria in greatest abundance. Sometimes the bacilli were arranged about the entire circumference of the cell just within its border, or they formed little rows extending from the periphery toward the center in the form of radii. Here and there they were so densely packed together as to fill the entire area of the cell. These cells filled with bacteria were most numerous near the surface, each one forming the center of a colony of bacteria cells.

The writer minutely describes the method of coloring the sections, upon the importance of which much stress is laid. Successful experiments were made in cultivating the bacteria artificially. All attempts to inoculate the lower animals failed.

Summing up the results of his investigations, the writer believes that the presence of bacteria in the tissues affords the most plausible explanation of the irritating, inflammatory changes which mark the disease. The writer points out the fact that the entire dissimilarity of the bacterial forms of this disease to those that have been met with in lepra precludes the notion of the two diseases being in any way allied to each other.

27. Thin contributes some practical points with reference to the *fungi of parasitic skin diseases*. He is a little skeptical with regard to many of the cultivation experiments that have been reported. The fungi of most of the

diseases were found by no means easy to cultivate. In the case of the *trichophyton tonsurans* it was found impossible to get any satisfactory results with the ordinary fluids used for this purpose—such as carrot infusion, Cohn's fluid, salt solution, egg-albumin, milk, tap-water, etc., but better success was obtained with vitreous and aqueous humors. The interesting fact is recorded that when the germs were wholly immersed in the vitreous humor they failed to develop. This fact, the writer suggests, might be utilized with reference to treatment of the disease.

No success was had in cultivating either the *microsporon furfur*, the *achorion Schoenleinii*, or the *bacterium decalvans*. The last-named fungus, which is regarded by Thin as the cause of *alopecia areata*, is said to be very difficult to demonstrate. The germs are exceedingly small, and in sound hairs it is not easy to see such minute objects, while in diseased hairs the fat and pigment granules tend to make the field obscure. When seen, they appear uniform in size and in refractive qualities. Two or three of them are generally joined together end to end. It is stated that they enter the hair follicle between the internal root sheath and the shaft. Toward the root of the hair they penetrate the hair substance and there multiply, gradually ascending upward in the shaft, causing it to become disorganized. This is opposed to the theory that these skin parasites are identical with the common fungi, such as *aspergillus glaucus*, *penicillium glaucum*, *torula*, etc., but the author believes they are peculiar to the skin of a few of the mammals, and perhaps also to some few other soils.

24. According to Neumann's description, the chief pathological changes of the skin in measles were confined to the cutaneous glands and blood-vessels. About the walls of the blood-vessels, especially in the upper portion of the cutis, there were growths of round cells that accompanied the vessels into the capillary loops in the papillæ. The vessels themselves were dilated. The round cells were also thickly deposited about the walls of the sweat glands, including the excretory ducts. They never appeared upon the inside of the walls, but always outside. The same changes were found in the sebaceous glands. The tissue of the cutis was unaffected. The hair follicles were enlarged—club-shaped—near the insertion

of the arrector pili muscles, and, like the sweat and sebaceous glands, were covered with round cell growths.

In scarlatina, Neumann found an entirely different set of changes. The cells in the deeper layers of the rete (the prickle cells) were swollen, and also their nuclei. Many of the cells became elongated and spindle-shaped, inclosing interspaces between them. Exudation cells were so numerous as in places to displace the epidermis entirely, and appeared free upon the surface. The connective tissue of the cutis was swollen, and the fibrous bundles were thickened, separated here and there by cellular growths and greatly enlarged blood-vessels. Some of the vessels were dilated to ampullæ.

It is maintained that the nearness of the exudation cells to the surface in scarlatina accounts for the contagiousness of that disease during the stage of desquamation, while in measles the fact that the epidermis is unimplicated accounts for the uniform failure of attempts to inoculate the disease by means of epidermic scales, whether applied to the skin or introduced by the stomach. Experiments at inoculation of this disease have succeeded only with the blood or some of the secretions (such as the nasal mucus, saliva, and tears). The marked implication of the follicles and blood-vessels would imply, the writer thinks, that it is by these avenues that the poison seeks to make its escape from the body, evincing thus a certain analogy with some of the drug exanthems.

61. Pilcher divides the phlegmons that occur in the space anterior to the bladder into two varieties, corresponding to two anatomical divisions of this space—to wit, the prevesical and the submuscular. The division corresponds to Guyon's into "idiopathic" and "symptomatic" phlegmons. The prevesical space, which is the cavity of Retzius, is mainly retro-pubic, and is bounded in front by the pubes and rami and the transversalis fascia; behind by the bladder and its enveloping cellular tissue. The submuscular space is supra-pubic, and is bounded in front by the posterior face of the recti

muscles; behind by the transversalis fascia of Cooper; and laterally by the attachments of the fascia of the leaflet which springs from the outer margin of the tendons of the recti. It is divided in the median line by a septum.

The writer shows that the phlegmons of these two spaces are clinically distinguishable from each other, both in their mode of origin and in their symptoms. While the submuscular phlegmons are often the result of bloody effusions upon the posterior surface of the recti muscles, the prevesical phlegmons are due to an affection of some of the organs of the true pelvis. The submuscular phlegmons develop from the pubes toward the umbilicus, and have no prolongation into the true pelvis. By rectal exploration, the induration appears remote, and fails, in the early stage, to give any indication. The vesical symptoms are not prominent, or are wanting entirely. Not infrequently resolution takes place. The pus is often sanguinolent. On the other hand, the prevesical phlegmons form tumors which are situated in the true pelvis, and are, consequently, accessible to rectal touch. They rise more or less above the pubes, lie between it and the bladder, and may extend toward the rectum. Vesical troubles are pronounced. Resolution is very rare. The pus is often evacuated through the vagina, urethra, rectum, or crural canal. The pus is not sanguinolent. In both varieties the prognosis is grave, because of the proximity to the peritonæum—that of the submuscular less so than that of the prevesical.

62. Barker's operation for varicocele consisted simply in carrying two loops of carbolized silk ligature about the spermatic veins, tying them a short distance apart, cutting the ends short and letting them slip back into the scrotal wound which had been made between the veins and vas deferens to admit the needle. No carbolic spray was used, but otherwise the ordinary antiseptic precautions. In all of the three cases experimented upon, the skin healed readily over the ligatures, and the result was an entire success.

Miscellany.

THE CARTWRIGHT LECTURES.—It is stated that the next course of the Cartwright lectures will be given by Dr. W. T. Belfield, of Chicago. Judging from Dr. Belfield's contributions to some of the German journals, the committee of the Alumni Association of the College of Physicians and Surgeons must be credited with having made a most excellent selection.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY LECTURES.—It is announced that the course for the season of 1882-'83 will be given by Professor Austin Flint, Sr., on the subject of "The Physical Exploration of the Lungs by means of Auscultation and Percussion." The course will include three lectures: the first on "The True Mode of Study and its Requirements as regards Auscultation and Percussion. The Signs obtained by Percussion"; the second on "Auscultation; and the Respiratory Murmur, with its Abnormal Modifications"; the third on "The Râles and the Vocal Signs." The lectures will be given in the hall of the society, corner of Thirteenth and Locust Streets, November 25th, December 16th, and January 13th, at 8 P. M.

THE LATE DR. JAMES B. REYNOLDS.—At a stated meeting of the New York Pathological Society, held October 25, 1882, the committee appointed to prepare resolutions on the death of Dr. James B. Reynolds made the following report:

"The Pathological Society of New York, having heard with unfeigned regret of the death of Dr. James B. Reynolds—for twenty-four years one of its most valued members—directs this minute to be entered upon its records:

"In the death of Dr. Reynolds we recognize the loss of one who was endeared to the profession by his courteous deportment, his high professional attainments, and the zeal which he displayed in the cause of medical education and progress.

"By his clinics in pædiatrics, which were given weekly as long as

his health permitted, he supplied a want long felt in the curriculum of medical teaching, and the loss of instruction given by him in this important branch will be keenly felt by students and practitioners.

"The society extends to the bereaved family of Dr. Reynolds the assurance of its profound sympathy, and directs this notice to be published in the medical journals of New York."

CHARLES C. LEE,
J. L. SMITH,
J. J. HULL,
Committee.

ARMY INTELLIGENCE.—*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 13, 1882, to November 13, 1882.*—

MOORE, JOHN, Major and Surgeon, Medical Director, Headquarters, Department of the Columbia. Granted leave of absence for one month, with permission to apply to Headquarters, Military Division of the Pacific, for an extension of one month. S. O. 145, Department of the Columbia, October 3, 1882.=====

SPENCER, W. C., Surgeon. In addition to his duties at Fort Snelling, Minnesota, to perform the duties of attending surgeon at Department Headquarters. S. O. 176, Department of Dakota, October 24, 1882.=====

WILLIAMS, JOHN W., Surgeon. To proceed to Vancouver Barracks, Washington Territory, and report upon arrival to the commanding general, Department of the Columbia, for assignment to duty in that department. S. O. 168, Military Division of the Pacific, October 13, 1882.=====

AINSWORTH, F. C., Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 120, Department of Texas, November 1, 1882.=====

AINSWORTH, F. C., Assistant Surgeon. The leave of absence granted November 1, 1882, is extended one month. S. O. 121, Military Division of the Missouri, November 9, 1882.=====

BAENETT, RICHARDS, Assistant Surgeon. Granted leave of absence for one month, with permission to apply

for an extension of five months. S. O. 202, Department of the East, November 1, 1882. ===== BREWSTER, WILLIAM B., Assistant Surgeon. On being relieved by Acting Assistant Surgeon Potter, will proceed to Fort Bridger, Wyoming Territory, reporting to the commanding officer thereof for duty. S. O. 116, Department of the Platte, November 4, 1882. ===== BYRNE, CHARLES B., Captain and Assistant Surgeon. Leave of absence extended ten days. S. O. 243, A. G. O., October 18, 1882. ===== CARTER, EDWARD C., Assistant Surgeon. Now at Camp Price, to proceed to Fort Thomas, and report to the commanding officer of that post for duty. S. O. 159, Department of Arizona, October 11, 1882. ===== EVERTS, EDWARD, Assistant Surgeon. Assigned to duty at Fort Cœur d'Alene, Idaho Territory. S. O. 145, Department of the Columbia, October 3, 1882. ===== GRAY, W. W., Assistant Surgeon. Granted one month's leave of absence on surgeon's certificate of disability, with permission to apply for an extension of five months. S. O. 103, Department of the South, October 31, 1882. ===== KANE, JOHN J., Assistant Surgeon, whose leave of absence, granted October 9, 1882, Department of the Missouri, is extended two months. S. O. 247, par. 3, A. G. O., October 23, 1882. ===== LORING, LEONARD Y., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 243, A. G. O., October 18, 1882. ===== McELDERRY, HENRY, Assistant Surgeon. Upon arrival of Assistant Surgeon Brewster at Fort Bridger, Wyoming Territory, to be relieved, and ordered to Fort Robinson, Nebraska, to report to the commanding officer thereof for duty. S. O. 116, Department of the Platte, November 4, 1882. ===== O'REILLY, ROBERT M., Captain and Assistant Surgeon. Detailed member of board of officers to assemble at Washington, D. C., to examine into and report upon qualifications of candidates for superintendents of national cemeteries. S. O. 254, A. G. O., October 31, 1882. ===== OWEN, WILLIAM O., Jr., Assistant Surgeon. Is relieved from duty at Fort Townsend, Wyoming Territory, and assigned to duty at Van-

couver Barracks, Washington Territory. S. O. 148, par. 1, Department of the Columbia, October 6, 1882. ===== TAYLOR, A. W., Assistant Surgeon. Relieved from duty at Fort Supply, Indian Territory, and assigned to duty at Fort Cummings, New Mexico. S. O. 208, Department of the Missouri, October 16, 1882. ===== TURRILL, HENRY S., Captain and Assistant Surgeon. Assigned to duty at Fort Omaha, Nebraska. S. O. 112, par. 3, Department of the Platte, October 23, 1882. ===== WILSON, GEORGE F., Assistant Surgeon. Relieved from duty at Vancouver Barracks, Washington Territory, and assigned to duty at Fort Townsend, Wyoming Territory. S. O. 148, par. 1, Department of the Columbia, October 6, 1882. ===== APPEL, AARON H., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 168, Department of Dakota, October 14, 1882. ===== APPEL, AARON H., First Lieutenant and Assistant Surgeon. Leave of absence extended two months. S. O. 255, A. G. O., November 1, 1882. ===== BANISTER, JOHN M., First Lieutenant and Assistant Surgeon. The leave of absence granted by par. 5, S. O. 203, Department of the Missouri, October 10, 1882, is extended one month. S. O. 113, par. 2, Military Division of the Missouri, October 23, 1882. ===== BRECHEMIN, LOUIS, First Lieutenant and Assistant Surgeon. Leave of absence for five months granted. S. O. 259, par. 2, A. G. O., November 6, 1882. ===== WYETH, M. C., First Lieutenant and Assistant Surgeon. Will be relieved from duty at Fort Meade, Dakota Territory, upon his return from detached service, and will proceed to Fort Yates, Dakota Territory, and report to the commanding officer of that post for duty. S. O. 172, Department of Dakota, October 19, 1882. ===== BUSHNELL, GEORGE E., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 244, A. G. O., October 19, 1882. ===== BUSHNELL, GEORGE E., First Lieutenant and Assistant Surgeon. Extension of one month's leave of absence is revoked. S. O. 247, par. 2, A. G. O., October 23, 1882.



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